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PROPOSED LARGE-SCALE RESIDENTIAL DEVELOPMENT, GALWAY PORT  
AT LOUGH ATALIA ROAD, GALWAY CITY

# EIAR Volume 3

## Appendices

The Land Development Agency

**Report no.:** 01, Rev. 01

**Document no.:** 01

**Date:** 18-09-2025



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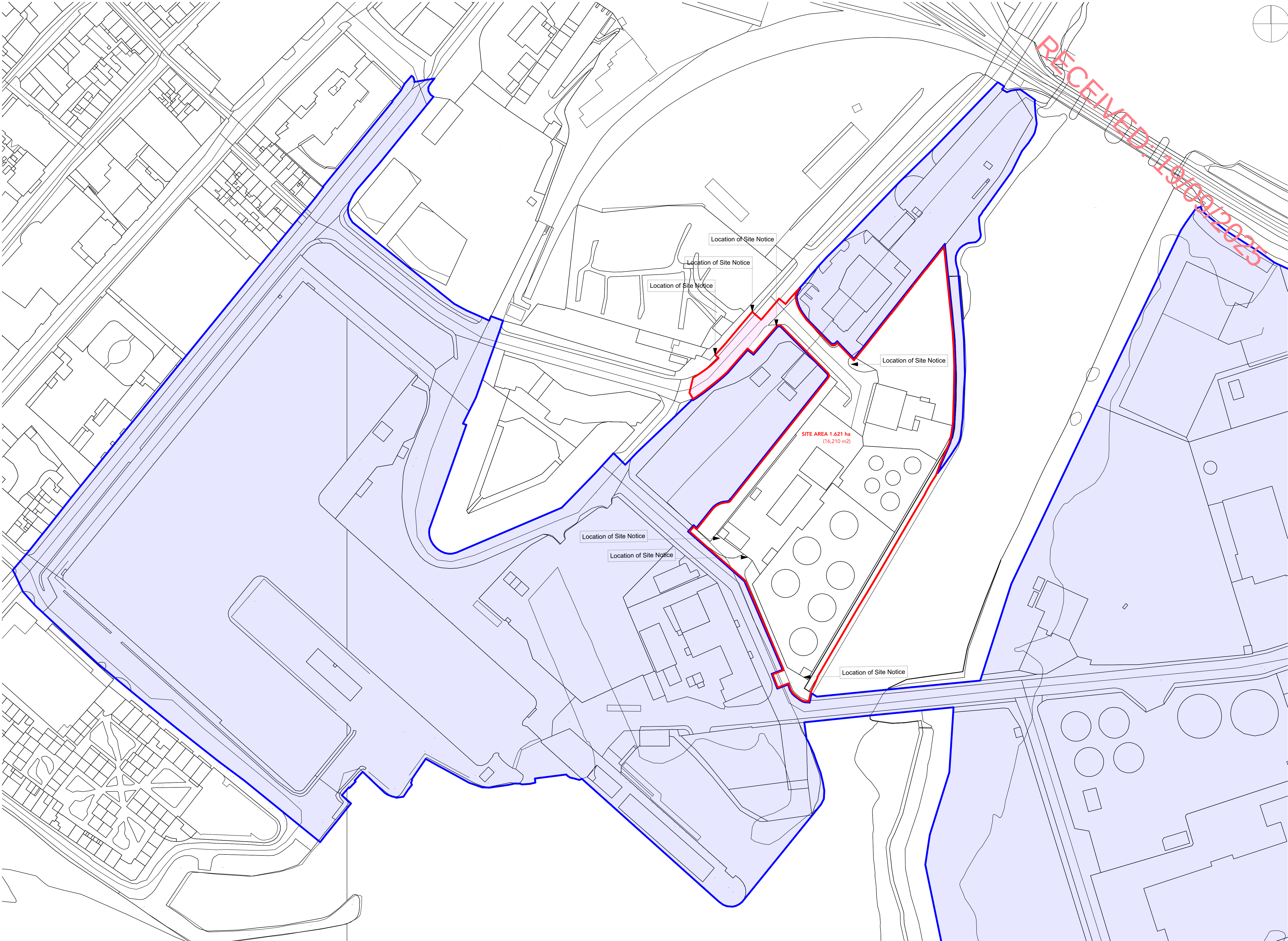
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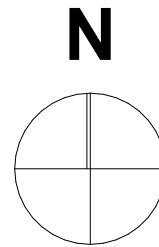
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## Appendix 2-1

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Site Location Plan  
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Legend

- CURRENT SITE SUBJECT OF THIS APPLICATION
- IN THE CONTROL OF THE PRIMARY ENTITY WHO OWNS THE LANDS
- THIRD PARTY LANDS - GALWAY CITY COUNCIL

Description:  
Digital Landscape Model (DLM)  
Publisher / Source:  
Ordnance Survey Ireland (OSI)  
Data Source / Reference:  
PRIME2  
File Format:  
Autodesk AutoCAD (DWG\_R2013)  
File Name:  
v\_50387508\_1.dwg  
Clip Extent / Area of Interest (AOI):  
LLX,LLY= 529752.7729,724697.4919  
LRX,LRY= 530582.7729,724697.4919  
ULX,ULY= 529752.7729,725312.4919  
URX,URY= 530582.7729,725312.4919  
Projection / Spatial Reference:  
Projection= IRENET95\_Irish\_Transverse\_Mercator  
Centre Point Coordinates:  
X,Y= 530167.7729,725004.9919  
Reference Index:  
Map Series / Map Sheets  
1:1,000 | 3408-08  
1:1,000 | 3408-13  
1:2,500 | 3408-B  
1:1,000 | 3408-09  
Data Extraction Date:  
Date= 07-Mar-2024  
Source Data Release:  
DCMLS Release V1.173.118  
Product Version:  
Version= 1.4  
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| Rev | Date  | Description                       | Issued By | Checked By |
|-----|-------|-----------------------------------|-----------|------------|
| 01  | 09/25 | Issue for LRD Planning Submission | DE        | PT         |

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**LRD PLANNING**

Client:  
The Land Development Agency

Project:  
Galway Port LRD

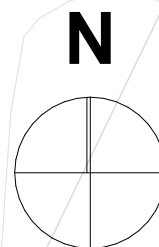
Drawing:  
Site Location Map

| Job No | Scale  | Sheet | Status | Revision |
|--------|--------|-------|--------|----------|
| 24064  | 1:1000 | A1    |        |          |

- P101.1

## Appendix 2-2

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4. Drawings to be read in conjunction with all relevant engineers drawings. Mechanical and electrical, any structural or services information shown on this drawing is indicative only.
5. The contractor shall be responsible for the coordination of all structure, services and finishes.
6. Proprietary items shall be fixed in strict accordance with manufacturers instructions.
7. This drawing shall only be used for the work stage as denoted and no subsequent stage.

- GA Plan Legend and Notes**
- Current site subject of this application
  - In control of the entity who owns the lands
  - Third Party Lands - Galway City Council

**NOTE:**  
Refer to Stephen Diamond Landscape Architects' drawings for Landscape Design and Details  
Refer to TOBIN Consulting Engineers' drawings for Civil & Roads Details

| Rev | Date     | Description                       | Issued By | Checked By |
|-----|----------|-----------------------------------|-----------|------------|
| -   | 01.09.25 | Issue for LRD Planning Submission | DE        | PT         |

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**LRD PLANNING**

Client:  
The Land Development Agency

Project:  
Galway Port LRD

Drawing:  
Proposed Site Layout Plan

Job No:  
24064

Scale: # A1  
1:500

Status:  
Rev

Revision:  
-P101.4

## Appendix 2-3

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- 
- Redline Boundary for Planning Application



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# LRD PLANNING

|                                       |                            |         |          |
|---------------------------------------|----------------------------|---------|----------|
| Client<br>The Land Development Agency |                            |         |          |
| Project<br>Galway Port LRD            |                            |         |          |
| Drawing<br>Proposed Phasing Plan      |                            |         |          |
| Job No<br><b>24064</b>                | Scale @ A1<br><b>1:500</b> | Status  | Revision |
| project                               | imagined                   | outline | final    |
| ■                                     | ■                          | ■       | ■        |

**-P107.4**

## Appendix 5-1

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## **Appendix 5-1 International Legislation**

### EU Birds Directive

The Birds Directive constitutes a level of general protection for all wild birds throughout the European Union. Annex I of the Birds Directive includes a total of 194 bird species that are considered rare, vulnerable to habitat changes or in danger of extinction within the European Union. Article 4 establishes that there should be a sustainable management of hunting of listed species, and that any large scale non-selective killing of birds must be outlawed. The Directive requires the designation of Special Protection Areas (SPAs) for: listed and rare species, regularly occurring migratory species and for wetlands which attract large numbers of birds. There are 25 Annex I species that regularly occur in Ireland.

### EU Habitats Directive

The Habitats Directive aims to protect some 220 habitats and approx. 1000 species through-out Europe. The habitats and species are listed in the Directives annexes where Annex I covers habitats and Annex II, IV and V cover species. There are 59 Annex I habitats in Ireland and 33 Annex IV species which require strict protection wherever they occur. The Directive requires the designation of Special Areas of Conservation (SACs) for areas of habitat deemed to be of European interest. The SACs together with the SPAs from the Birds Directive form a network of protected sites called Natura 2000.

### Bern and Bonn Convention

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982) was enacted to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was introduced in order to give protection to migratory species across borders in Europe.

### Ramsar Convention

The Ramsar Convention on Wetlands is an intergovernmental treaty signed in Ramsar, Iran, in 1971. The treaty is a commitment for national action and international cooperation for the conservation of wetlands and their resources. In Ireland there are currently 45 Ramsar sites which cover a total area of 66,994ha.

### Water Framework Directive

The EU Water Framework Directive (WFD) 2000/60/EC is an important piece of environmental legislation which aims to protect and improve water quality. It applies to rivers, lakes, groundwater, estuaries, and coastal waters. The Water Framework Directive was agreed by all individual EU member states in 2000, and its first cycle ran from 2009 – 2015. The Directive runs in 6-year cycles; the second cycle ran from 2016 – 2021, and the current (third) cycle runs from 2022-2027. The aim of the WFD is to prevent any deterioration in the existing status of water quality, including the protection of good and high-water quality status where it exists. The WFD requires member states to manage their water resources on an integrated basis to achieve at least 'good' ecological status, through River Basin Management Plans (RBMP), by 2027.

## **National Legislation**

### Wildlife Act 1976 and amendments

The Wildlife Act 1976 was enacted to provide protection to birds, animals, and plants in Ireland and to control activities which may have an adverse impact on the conservation of wildlife. With regard to the

listed species, it is an offence to disturb, injure or damage their breeding or resting place wherever these occur without an appropriate license from the National Parks and Wildlife Service (NPWS). This list includes all wild birds along with their nests and eggs. Intentional destruction of an active nest from the building stage up until the chicks have fledged is an offence. This includes the cutting of hedgerows from the 1<sup>st</sup> of March to the 31<sup>st</sup> of August. The act also provides a mechanism to give statutory protection to Natural Heritage Areas (NHAs). The Wildlife Amendment Act 2000 widened the scope of the Act to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act.

The current list of plant species protected by Section 21 of the Wildlife Act, 1976 (and amendments) is set out in the Flora (Protection) Order, 2015 (S.I. No. 356/2015). The Flora (Protection) Order affords protection to several species of plant in Ireland, including 68 vascular plants, 40 mosses, 25 liverworts, 1 stonewort and 1 lichen. This Act makes it illegal for anyone to uproot, cut or damage any of the listed plant species and it also forbids anyone from altering, interfering, or damaging their habitats. This protection is not confined to within designated conservation sites and applies wherever the plants are found.

#### EU Habitats Directive 1992 and EC (Birds and Natural Habitats) Regulations 2011

The EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 1992) provides protection to particular species and habitats throughout Europe. The Habitats Directive has been transposed into Irish law through the EC (Birds and Natural Habitats) Regulations 2011.

Annex IV of the EU Habitats Directive provides protection to a number of listed species, wherever they occur. Under Regulation 23 of the Habitats Directive, any person who, in regard to the listed species, “Deliberately captures or kills any specimen of these species in the wild, deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration, deliberately takes or destroys eggs from the wild or damages or destroys a breeding site or resting place of such an animal shall be guilty of an offence.”

#### Invasive Species Legislation

Certain plant species and their hybrids are listed as Invasive Alien Plant Species in Part 1 of the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011* (SI 477 of 2011, as amended). In addition, soils and other material containing such invasive plant material, are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Failure to comply with the legal requirements set down in this legislation can result in either civil or criminal prosecution, or both, with very severe penalties accruing. Convicted parties under the Act can be fined up to €500,000.00, jailed for up to 3 years, or both.

Extracts from the relevant sections of the regulations are reproduced below.

*“49(2) Save in accordance with a licence granted [by the Department of Arts, Heritage and the Gaeltacht], any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in anyplace [a restricted non-native plant], shall be guilty of an offence.*

*49(3) ... it shall be a defence to a charge of committing an offence under paragraph (1) or (2) to prove that the accused took all reasonable steps and exercised all due diligence to avoid committing the offence.*

50(1) *Save in accordance with a licence, a person shall be guilty of an offence if he or she [...] offers or exposes for sale, transportation, distribution, introduction, or release—*

*(a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule,*

*(b) anything from which an animal or plant referred to in subparagraph (a) can be reproduced or propagated, or*

*(c) a vector material listed in the Third Schedule, in any place in the State specified in the third column of the Third Schedule in relation to such an animal, plant or vector material.”*

### **National Biodiversity Action Plan 2023-2030**

The National Biodiversity Plan (NBAP) 2023-2030, the fourth such plan for Ireland, captures the objectives, targets and actions for biodiversity that will be undertaken by a wide range of government, civil society and private sectors to achieve Ireland's Vision for Biodiversity. The NBAP provides a framework to track and assess progress towards Ireland's Vision for Biodiversity over a seven-year timeframe from 2023 to 2030. To achieve the Vision, five strategic objectives were identified in the new NBAP for 2023-2030. Actions required to achieve the strategic objectives as well as the lead and key partners responsible for their implementation are set out for each of the objectives and their targets (Table A5-1:1).

*Table A5-1:1 Objectives and targets of the National Biodiversity Action Plan 2023-2030*

| Objective                                                                 | Target                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1: Adopt a whole-of-government, whole-of-society approach to biodiversity | Outcome 1A. Governance structures and reporting outputs have improved                                                                                                                                                                             |
|                                                                           | Outcome 1B. Organisational capacity and resources for biodiversity have increased at all levels of Government                                                                                                                                     |
|                                                                           | Outcome 1C: Responsibility for biodiversity is shared across the whole of government                                                                                                                                                              |
|                                                                           | Biodiversity Outcome 1D: Biodiversity initiatives are supported across the whole of society                                                                                                                                                       |
|                                                                           | Outcome 1E. The legislative framework for biodiversity conservation is robust, clear and enforceable                                                                                                                                              |
| 2: Meet urgent conservation and restoration needs                         | Outcome 2A: The protection of existing designated areas and protected species is strengthened and conservation and restoration within the existing protected area network are enhanced                                                            |
|                                                                           | Outcome 2B: Biodiversity and ecosystem services in the wider countryside are conserved and restored – agriculture & forestry                                                                                                                      |
|                                                                           | Outcome 2C: Biodiversity and ecosystem services in the wider countryside are conserved and restored – peatlands & climate action                                                                                                                  |
|                                                                           | Outcome 2D: Biodiversity and ecosystem services in the marine and freshwater environment are conserved and restored                                                                                                                               |
|                                                                           | Outcome 2E: Genetic diversity of wild and domesticated species is safeguarded                                                                                                                                                                     |
|                                                                           | Outcome 2F: A National Restoration Plan is in place to contribute to the ambition of the EU Biodiversity Strategy 2030 and global restoration targets                                                                                             |
|                                                                           | Outcome 2H: Invasive alien species (IAS) are controlled and managed on an all-island basis to reduce the harmful impact they have on biodiversity and measures are undertaken to tackle the introduction and spread of new IAS to the environment |
| 3: Secure nature's contribution to people                                 | Outcome 3A: Ireland's natural heritage and biocultural diversity is recognised, valued, enhanced and promoted in policy and practice                                                                                                              |
|                                                                           | Outcome 3B: The role of biodiversity in supporting wellbeing, livelihoods, enterprise and employment is recognised and enhanced                                                                                                                   |

|                                                                                 |                                                                                                                                                             |
|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                 | Outcome 3C: Planning and development will facilitate and secure biodiversity's contributions to people                                                      |
|                                                                                 | Outcome 4C: Long-term monitoring programmes are in place to guide conservation and restoration goals                                                        |
|                                                                                 | Outcome 4D: Ireland has prepared national assessments of ecosystem services                                                                                 |
| 4: Enhance the evidence base for action on biodiversity                         | Outcome 4A: Research funding bodies will have an improved understanding of the research and skills required to address biodiversity research gaps           |
|                                                                                 | Outcome 4B: Data relevant to biodiversity and ecosystems, including conservation needs, is widely accessible and standardised                               |
| 5: Strengthen Ireland's contribution to international biodiversity initiatives. | Outcome 5A: Science, policy and action on biodiversity conservation and restoration is effectively coordinated in an all-island approach                    |
|                                                                                 | Outcome 5B: Ireland takes action internationally to cooperate with other countries, sectors, disciplines and communities to address the biodiversity crisis |
|                                                                                 | Outcome 5C: Ireland enhances its contributions to the international biodiversity data drive                                                                 |

## Galway City Council Development Plan 2023-2029

Policies and objectives of the Galway City Council Development Plan 2023-2029 that are of relevance to this AA Screening Report are outlined in the below chapters:

**Policy 5.2 (1)** *Protect European sites that form part of the Natura 2000 network (including Special Protection Areas and Special Areas of Conservation) in accordance with the requirements in the EU Habitats Directive (92/43/EEC), EU Birds Directive (2009/147/EC) and associated national legislation.*

**(2)** *Ensure that all plans or projects within the Plan area will only be authorised and / or supported after the competent authority has ascertained based on scientific evidence, screening for appropriate assessment and /or a Habitats Directive Assessment that: i. The plan or project will not give rise to an adverse direct, indirect or secondary effect on the integrity of any European site (either individually or in combination with other plans or projects); or ii. The plan or project will have an adverse effect on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or iii. The plan or project will have an adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.*

**(4)** *Protect, conserve and support the development of an ecological network throughout the city which will improve the ecological coherence of the Natura 2000 network in accordance with Article 10 of the Habitats Directive.*

**(9)** *Co-operate with the NPWS, landowners and stakeholders in the preparation and implementation of management plans for designated sites and support conservation objectives of lands within Designated Sites for nature conservation Natura 2000 (SAC/SPA) and NHA sites.*

## Galway City Biodiversity Action Plan 2014-2024

Galway City Biodiversity Action Plan 2014-2024 is set out to protect and improve biodiversity through specific objectives and actions:

### Objectives:

- 1. To raise awareness and appreciation of biodiversity Seeks to raise awareness and appreciation of the many benefits of biodiversity among all sectors of society by providing information, education and training opportunities. A change in attitudes is key to protecting the great variety of life contained in the natural world around us and to protect our environment.*
- 2. To maintain and enhance biodiversity within the city Recognises the responsibility of the Local Authority and other state agencies to protect habitats and species of national and international conservation importance, and the potential to enhance biodiversity within the city. Aims to increase public participation in biodiversity initiatives and promotes a partnership approach to conserving biodiversity.*
- 3. To increase our knowledge and understanding of biodiversity Recognises the need for a solid knowledge-base in order to protect biodiversity effectively and the importance of making this information available and accessible to the public and decision makers.*

### Actions:

1. Designate Role of Biodiversity Officer by Formal Managers' Order.
2. Seek Long-term appointment of Full Time Biodiversity Officer.
3. Establish a Biodiversity Forum.
4. Conduct a biological audit for Galway City.
5. Survey attitudes of the people of the Galway to nature and biodiversity.
6. Develop a biodiversity awareness, education and training programme Target audience 1: General public, Target audience 2: City Council staff and officials and Target audience 3: Developers, architects, engineers and landowners.
7. Promote creation of new wildlife habitats in developments including housing estates, industrials GMIT, element sites and golf courses.
8. Promote community participation in nature conservation.
9. Establish a network of Local Biodiversity Areas and associated wildlife corridors.
10. Tree survey and preservation.
11. Key habitat: Urban woodlands and hedgerows.
12. Key habitat: Wetlands and watercourses.
13. Key habitat: Exposed limestone habitats.
14. Key Habitat: Peatlands.
15. Key zone: Coastal zone.
16. Key species group: Bats.
17. Key species group: Birds.
18. Key species group: Small mammals.
19. Key Species: Common swift (*Apus apus*).
20. Key Species: Common seal (*Phoca vitulina*).
21. Key Species: Red squirrel (*Sciurus vulgaris*).
22. Develop appropriate strategies for preventing the introduction and spread of invasive alien species.

23. Support implementation of national Species and National plans Habitat Action Plans within Galway City, as appropriate, and current National Biodiversity Action Plan.

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## Appendix 5-2

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## Appendix 5-2 Evaluation of Ecological Features

The criteria outlined in the table below, taken from the *Guidelines for Assessment of Ecological Impacts of National Road Schemes* published by the National Roads Authority (NRA), were used for assigning value to designated sites, habitats and species within the Site of the Proposed Development and surrounding area.

*Table A5-2:1 Description of values for ecological resources based on geographic hierarchy of importance (NRA, 2009)*

| Importance                      | Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>International Importance</b> | <ul style="list-style-type: none"> <li>- 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation.</li> <li>- Proposed Special Protection Area (pSPA). - Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended).</li> <li>- Features essential to maintaining the coherence of the Natura 2000 Network</li> <li>- Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive.</li> <li>- Resident or regularly occurring populations (assessed to be important at the national level) of the following: <ul style="list-style-type: none"> <li>o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or</li> <li>o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive</li> </ul> </li> <li>- Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971).</li> <li>- World Heritage Site (Convention for the Protection of World Cultural &amp; Natural Heritage, 1972).</li> <li>- Biosphere Reserve (UNESCO Man &amp; The Biosphere Programme)</li> <li>- Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979).</li> <li>- Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979).</li> <li>- Biogenetic Reserve under the Council of Europe.</li> <li>- European Diploma Site under the Council of Europe.</li> <li>- Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).</li> </ul> |
| <b>National Importance</b>      | <ul style="list-style-type: none"> <li>- Site designated or proposed as a Natural Heritage Area (NHA).</li> <li>- Statutory Nature Reserve.</li> <li>- Refuge for Fauna and Flora protected under the Wildlife Acts.</li> <li>- National Park.</li> <li>- Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park.</li> <li>- Resident or regularly occurring populations (assessed to be important at the national level) of the following: <ul style="list-style-type: none"> <li>o Species protected under the Wildlife Acts; and/or</li> <li>o Species listed on the relevant Red Data list.</li> <li>o Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>County Importance</b>        | <ul style="list-style-type: none"> <li>- Area of Special Amenity.</li> <li>- Area subject to a Tree Preservation Order.</li> <li>- Area of High Amenity, or equivalent, designated under the County Development Plan.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        | <ul style="list-style-type: none"> <li>- Resident or regularly occurring populations (assessed to be important at the County level) of the following: <ul style="list-style-type: none"> <li>o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;</li> <li>o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;</li> <li>o Species protected under the Wildlife Acts; and/or</li> <li>o Species listed on the relevant Red Data list.</li> <li>o Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance.</li> </ul> </li> <li>- County important populations of species; or viable areas of semi-natural habitats; or natural heritage features identified in the National or Local BAP; if this has been prepared.</li> <li>- Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county.</li> <li>- Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.</li> </ul> |
| <b>Local Importance (higher value)</b> | <ul style="list-style-type: none"> <li>- Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared;</li> <li>- Resident or regularly occurring populations (assessed to be important at the Local level) of the following: <ul style="list-style-type: none"> <li>o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;</li> <li>o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;</li> <li>o Species protected under the Wildlife Acts; and/or o</li> <li>o Species listed on the relevant Red Data list.</li> <li>o Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality;</li> </ul> </li> <li>- Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.</li> </ul>                                                                                                                                            |
| <b>Local Importance (lower value)</b>  | <ul style="list-style-type: none"> <li>- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife;</li> <li>- Sites or features containing non-native species that is of some importance in maintaining habitat links.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## Appendix 5-3

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## Appendix 5-3 Site Photographs

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### Site Photographs – Galway Port, Co. Galway



**Plate 1: Overview of Site, showing BL3 habitat and GS2 habitat**

**(aerial photograph taken via drone)**



**Plate 2: BL3 – Buildings and Artificial Surfaces Habitats**

**Site Photographs – Galway Port, Co. Galway**



**Plate 3: Boundary wall to south of the Site - further BL3 habitat (View from outside the Site and red line boundary)**

## Appendix 5-4

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PROPOSED LARGE-SCALE RESIDENTIAL DEVELOPMENT AT GALWAY  
PORT

# Natura Impact Statement

The Land Development Agency

Report no.: 002, Rev. 004

Date: 27/07/2025



RECEIVED: 18/09/2025

Project name: Proposed large-scale residential development at Galway Port  
 Report title: Natura Impact Statement  
 Customer: The Land Development Agency,  
 Customer contact: Daniel Moody  
 Date of issue: 27/07/2025  
 Project no.: 10577426  
 Organisation unit: Energy Systems  
 Report no.: 002, Rev. 004  
 Document no.: 002  
 Applicable contract(s) governing the provision of this Report:

Objective:

|                         |                            |                           |
|-------------------------|----------------------------|---------------------------|
| Prepared by:            | Verified by:               | Approved by:              |
| HR<br>Ecologist         | AC<br>Senior Ecologist     | MP<br>Principal Ecologist |
| CBH<br>Senior Ecologist | BT<br>Senior Ecologist     |                           |
| CBH<br>Senior Ecologist | SOD<br>Principal Ecologist |                           |

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## 1 INTRODUCTION

### 1.1 Background

DNV was commissioned by Altu Architects, on behalf of the Land Development Agency (LDA), to prepare an Appropriate Assessment (AA) Screening Report in relation to a Proposed Large-Scale Residential Development (LRD) at Galway Port, County Galway, hereafter referred to as 'Proposed Development' or 'Site.' The AA Screening Report concluded that a degree of uncertainty exists in whether the Proposed Development could give rise to potential Likely Significant Effects (LSE) on four European sites, namely:

- *Inner Galway Bay Special Protection Area (SPA) (004031),*
- *Galway Bay Complex Special Area of Conservation (SAC) (000268),*
- *Lough Corrib SAC (000297)*
- *Lough Corrib SPA (004042)*

Therefore, a Natura Impact Statement (NIS) has been prepared for the Proposed Development. The purpose of this NIS report is to provide information for the relevant competent authority to carry out a Stage 2 AA in respect of the Proposed Development.

### 1.2 Quality Assurance and Competence

All surveying and reporting have been carried out by qualified and experienced ecologists and environmental consultants.

The desk study and writing was conducted out by Hugh Rowlands (HR), ecologist at DNV. Surveys were carried out by HR and Brian Mc Closkey (BMcC), ecologists at DNV. This report was reviewed by Alic Clarke (AC), Senior Ecologist at DNV, and approved by Matthew Peden (MP) and Shea O'Driscoll (SOD), Principal Ecologists at DNV. Final updates to this report were completed by Ciara Barry-Hannon (CBH), Senior Ecologist with DNV.

HR has a B.A. (Mod.) in Zoology and a M.Sc. in Biodiversity and Conservation from Trinity College Dublin, and a PgDip in GIS and Remote Sensing from the University of Ulster. HR has a wealth of experience in biodiversity mapping, desktop research, literature review and reporting, as well as practical field experience including habitat mapping, invasive species surveys, and ornithology surveys.

BMcC is an experienced Ornithologist with a BSc in Planning and Environmental management from the Technological University of Dublin (TUD) and 12 years of bird survey experience, including three years of professional Ornithology work. BMcC is a longstanding and active member of Bird Watch Ireland and is also the author of several articles in UK birding publication Birdwatch Magazine. BMcC is highly experienced in all survey methodologies and with surveying all species groups of Irish birds and migrants, having provided a range of ornithology survey work for ecological consultancies, e.g., vantage points surveys of gulls, terns, raptors, waders and wildfowl; hinterland surveys of the above as well as riverine species; and breeding waders and country birds.

AC is an experienced general ecologist with six years' experience in ecological consultancy; she is an Associate member of CIEEM (ACIEEM) with an MSc in Ecological Management and Conservation Biology from Queen's University, Belfast. AC has a wealth of experience authoring and reviewing Screenings for Appropriate Assessment (AA), Natura Impact Statements (NIS), Ecological Impact Assessments (EclA) and Biodiversity Chapters for Environmental Impact Assessment Reports (EIAR). Subsequently, she is very familiar with the process of ecological assessment and the relevant legislation. She is experienced in a range of survey techniques, including conducting bat, mammal, bird, newt, invasive species and habitat surveys.

MP has 15 years' experience in environmental consultancy with extensive HRA experience in marine and terrestrial projects including large infrastructure projects, offshore cable replacements, renewables and ports. He has also authored and reviewed a number of plan-level HRAs including flood strategy plans and transport plans. He is a full member of CIEEM and holds a BSc (Hons) Land Use and Environmental Management and a PGDip in Ecology and Conservation Management from Queens University Belfast.

SOD is a Principal Ecologist with an honours degree in Zoology from University College Dublin and a Masters in Advanced Wildlife Conservation in Practice from the University of the West of England, Bristol. SOD has experience in habitat survey and assessment in a range of terrestrial, freshwater and coastal environments, surveys for protected species including bats, otter, newts, freshwater pearl mussel, crayfish and badger as well as surveys for invasive flora species. In his role as an ecologist, SOD advises clients and contractors in relation to appropriate mitigation strategies for protected species, such as bats, badger and amphibians and, where required, applies on behalf of the client for necessary derogation licenses. SOD is also experienced in providing ecological services at the construction phase of development to ensure compliance with relevant planning conditions. Throughout his career as an ecologist, SOD has been project manager and lead author on a range of projects including tourism, industrial, residential, and renewable energy developments as well as multiple large scale, national infrastructure projects.

CBH Senior Ecologist with DNV has a BSc. (Hons) in Wildlife Biology from Munster Technological University (formerly ITT). CBH has a wealth of experience in desktop research, literature review and reporting, as well as practical field and laboratory experience including experience in surveying habitats, plants, bats, birds, mammals, and invasive species. CBH has prepared several PEA, EclA, and Stage I/Stage II AA Reports, as-well as ornithology reports for renewable energy projects (wind and solar technology). Additionally, CBH has completed, and supported the preparations of several Biodiversity Chapters for Environmental Impact Assessment Reports (EIAR). CBH is also a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

## **1.3 Description of Proposed Development**

### **1.3.1 Site Location**

The Site of the Proposed Development is located in Galway Port, Galway City. The Site is located in Galway city centre, approximately 400 metres (m) southeast of Eyre Square, and immediately adjacent to Lough Atalia, and falls into the jurisdiction of Galway City Council. The subject site extends to approximately 1.621 Ha. It is irregular in shape; The Site is predominantly bound by urban land to the north and west, Lough Atalia channel to the north-east and south-east; Dock Road to the south-west; and port lands, Lough Atalia Road and the Texaco filling station to the north-west. (See Figure 1 for Site Location).

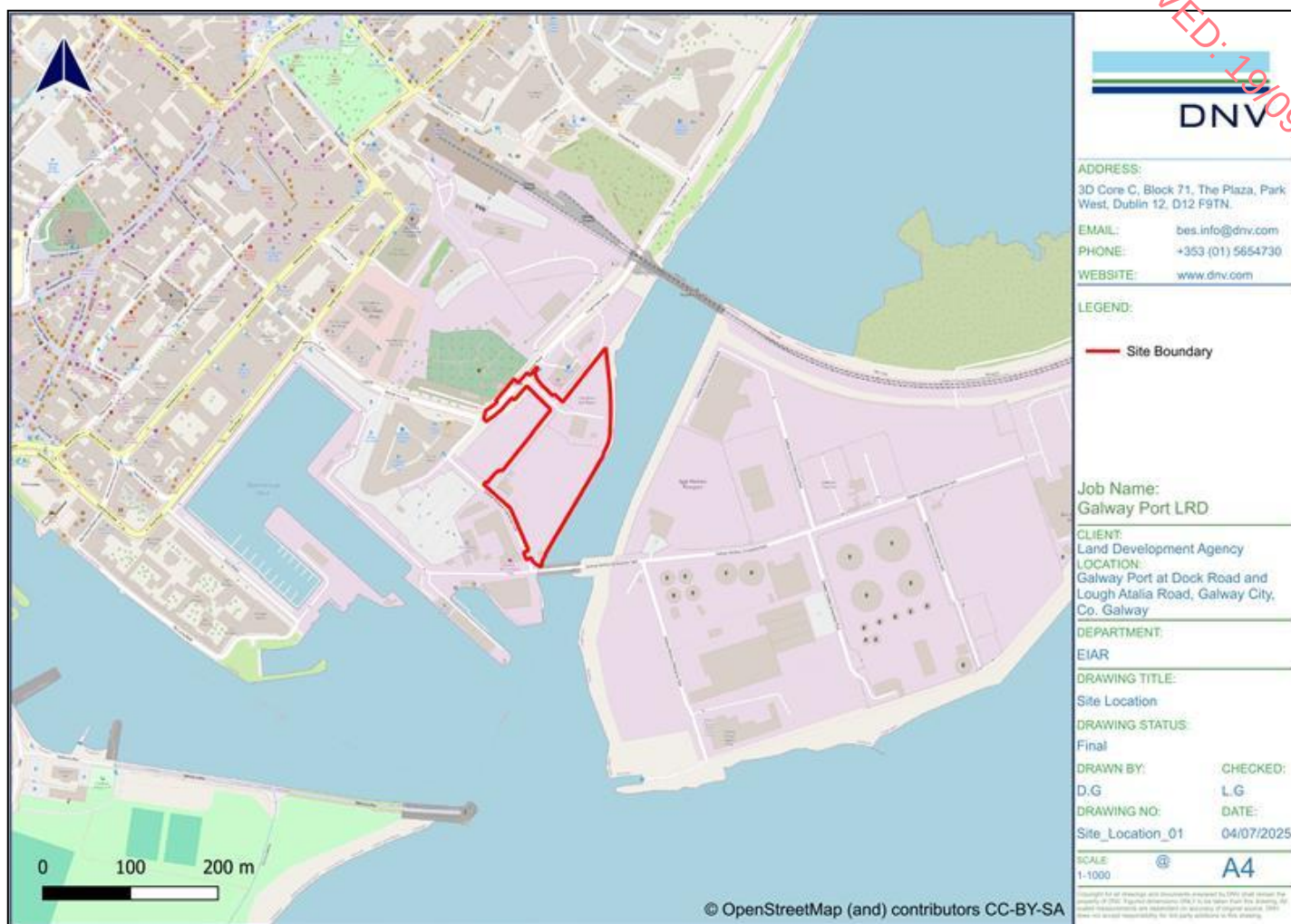


FIGURE 1. SITE LOCATION (QGIS, 2025).

### 1.3.2 Current Land Use Description

The Proposed Development Site is currently used for storage of wind turbine parts and bus parking, with the depot building for the latter present at the site's northeastern extent. Previously, it was used as a fuel storage compound with tanks for petrol, diesel and kerosene, although these features have been removed to ground level. Structures currently on Site include a 2-storey office-type building at the site's northern extent (used by a bus company), a single-storey building to the southwest (understood to be a substation) and a pumphouse to the south (adjacent to the bridge traversing the Lough Atalia outlet).

### 1.3.3 Proposed Development Description

The Land Development Agency (LDA) intends to apply to Galway City Council for permission for a 'Large-Scale Residential Development' (LRD) at a site of 1.621 Ha in Galway Port at Dock Road and Lough Atalia Road, Galway City, and extending to include parts of both roads for road infrastructure works and water services infrastructure works. The Proposed Development principally consists of:

- The demolition of the existing office / bus depot building (370.2 sq m) and ancillary building (26.0 sq m);
- The partial demolition of the existing ESB sub-station and ancillary building (67.4 sq m);
- The demolition of existing boundary walls at the south-west and north-west; and
- The construction of a mixed-use development.
- The proposed mixed-use development primarily comprises:
  - 356 No. residential apartments (172 No. 1-bed, 169 No. 2-bed and 15 No. 3-bed);
  - Crèche (255.9 sq m);
  - No. café/restaurant units (totalling 428.4 sq m) and 1 No. retail unit (156.0 sq m).

The development has a total floor area of 32,096.0 sq m and is primarily proposed in 4 No. blocks (identified as A–D) that generally range in height from 6 No. to 13 No. storeys: Block A ranges from 6 No. to 9 No. storeys; Block B ranges from 6 No. to 11 No. storeys; Block C is 6 No. storeys; and Block D ranges from 6 No. to 13 No. storeys.

The Proposed Development also includes:

- New internal street and pedestrian network, including a one-way vehicular route at the north-western side of the site and new junctions with Dock Road at the south-west and with the access road from Lough Atalia at the north-west;
- Upgrades to Lough Atalia Road and the access road from it at the north-west of the site, including the provision of a new toucan pedestrian/cycle crossing at Lough Atalia Road; upgrades to the footpath and road interface with Dock Road to the south-west;
- 37 No. car parking spaces;
- 1 No. set-down/delivery bay;
- 741 No. cycle parking spaces;
- Hard and soft landscaping, including as public open spaces and communal amenity spaces;
- Private amenity spaces as balconies and terraces facing all directions; boundary treatments;
- Public lighting;
- Bin stores;
- Double sub-station;
- Plant rooms; green roofs;
- Rooftop lift overruns and plant;
- Rooftop telecommunications, plant and enclosure at Block C;
- Recladding of the existing sub-station and pumping station; and
- All associated works above and below ground.

See Figure 2 and Figure 3 for Site Layout and Phase details.

### 1.3.4 Proposed Landscape Plan

The Proposed Landscape Plan has been prepared by Stephen Diamond Associates, Chartered Landscape Architects (July 2025). An overview of the Master Landscape Design is included below but can be viewed in further detail under separate cover, accompanying this application.

The Proposed Landscape Plan includes the following elements:

- Grass Lawns; free-draining, back-filled, seed sown with low maintenance grass.
- Wildflower Meadows; sown with native plant mix, low maintenance, cut a maximum of 1-2 times per annum)
- Planting Shrubs, Perennials, & Groundcover; flowering, shade tolerant and pollen rich plants.
- Native Trees and Hedgerows; Comprising native tree species to include clear and multi-stemmed trees, and a;
- Green Wall; with climbing plants.

(See Figure 4 for the illustrated landscape plan).





FIGURE 3. PROPOSED PHASING PLAN (ALTU ARCHITECTS, 2025).

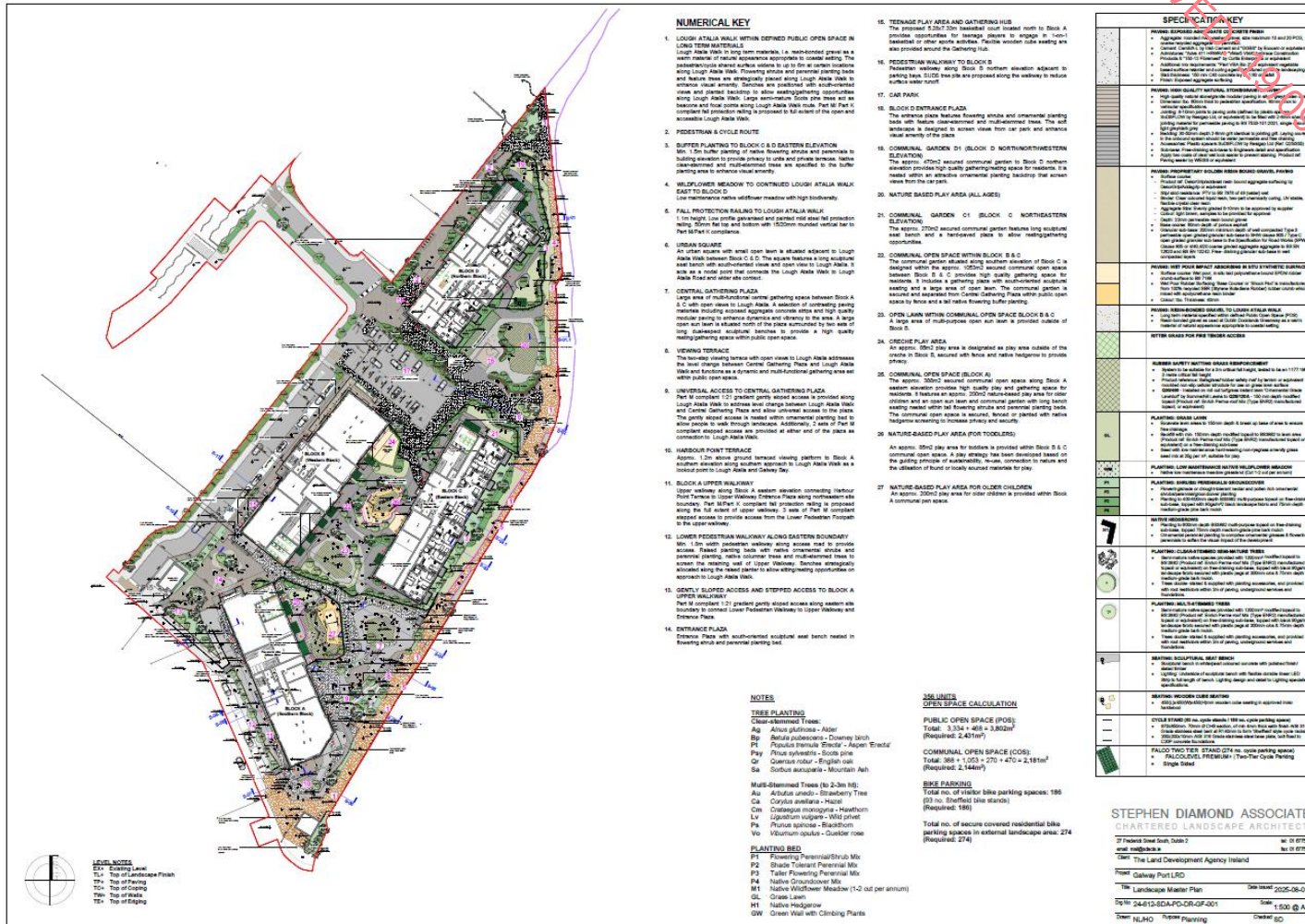


FIGURE 4. PROPOSED LANDSCAPE MASTERPLAN (STEPHEN DIAMOND ASSOCIATES, DECEMBER 2024).

### 1.3.5 Drainage and Water Supply

#### 1.3.5.1 Potable Water Supply

The following overview has been extracted from the Civil works Design Report (Tobin, 2025):

*“It is proposed to connect a 100mm watermain to an existing 300mm Uisce Eireann watermain, that is located running along the existing Lough Atalia Road, north of the proposed site entrance. The proposed 100mm watermain is the required size to service the development as per Uisce Eireann specifications. All watermain designs will be fully vetted by Uisce Eireann prior to receiving an offer to connect. Details of the watermain arrangement for the proposed development is presented in this report and in drawing no. 11910-2001. A Pre-connection enquiry for the water demand for 400 residential units, was submitted to Uisce Eireann. A Confirmation of Feasibility from Uisce Eireann was received. All watermain designs will be fully vetted by Uisce Eireann prior to receiving an offer to connect.”*

#### 1.3.5.2 Surface Water Drainage

The following has been extracted from the Civil Works Design Report (Tobin, 2025):

*“The proposed stormwater drainage system has been designed to cater for all surface water runoff from hard surfaces within the development including roadways, roofs etc. All surface water generated onsite will pass through oil/petrol interceptors designed to separate hydrocarbons from water before discharging to one of 2 no. proposed attenuation units.”*

Embedded SuDs measures are detailed in section 4.5.1.3 below.

#### 1.3.5.3 Foul Water Drainage

Foul water during the Operational Phase will discharge into the two European sites via the WwTP on Mutton Island. Mutton Island Wastewater Treatment Plant<sup>1</sup> (WwTP), which is located approximately 1.6 kilometres (km) to the south of the Site in Galway Bay serving the entire catchment area of Galway city and its environs. This design, build and operate (DBO) project saw Irish Water engage Murphy to refurbish the existing plant and deliver an expansion in capacity from a population equivalent 91,600 to 170,000 followed by a 20-year operation and maintenance period. Mutton Island Wastewater Treatment Plant uses anaerobic digestion to renewable energy from organic waste and this project also entailed the installation of new combined heat and power (CHP) units to harness the biogas produced to power the operation of the plant<sup>2</sup>. The original plant was constructed and commissioned by Murphy in 2003 and had been operated and maintained by Murphy since it entered service. As a result, Mutton Island WwTP has capacity (total of 170,000 population equivalent (pe)) available to accommodate the Proposed Development's foul drainage. In addition, the Annual Environmental Report (2024<sup>3</sup>) for this WwTP shows that the plant is currently in compliance with its emission limit values (ELVs). As such foul water impacts can be ruled out and are not discussed further within this Report.

The following has been extracted from the Civil Works Design Report (Tobin, 2025):

*“It is proposed that the wastewater network will consist of gravity discharge to the existing combined sewer in the direction of the north-west corner of the site. The foul sewer network was designed using Causeway Flow. The proposed foul sewer network is presented graphically on drawing no. 11910-2002. A pre-connection enquiry for the wastewater discharge from 400 residential units was submitted to Uisce Eireann. A Confirmation of Feasibility from Uisce Eireann was received and is attached in Appendix*

<sup>1</sup> Also known as Galway City WwTP

<sup>2</sup> [Mutton Island Waste Water Treatment Works | Murphy Group](#)

<sup>3</sup> [D0050-01\\_2024\\_AER\\_Rev1.pdf](#)



*D of this report. All foul sewer designs will be fully vetted by Uisce Eireann prior to receiving an offer to connect.*

*In accordance with Section 3.6 of the Uisce Eireann Code of Practice for Wastewater Infrastructure UE-CDS-5030-03, dry weather flow (DWF) for domestic wastewater is 450 litres per dwelling. This equates to 2.7 P.E. per unit accounting for a 10% infiltration rate and rounded-up.*

*Pipework design of the foul sewers was undertaken using Causeway Flow software. The design is presented on drawing no. 11910-2002. All pipework has been designed in accordance with Uisce Eireann Code of Practice for Wastewater Infrastructure UE-CDS-5030-03. It is proposed that all pipes in the network will be thermoplastic structured wall pipes. The maximum pipe diameter is to be 225mm with maximum and minimum gradients of 1/60 and 1/200, respectively. All velocities within the foul network comply with Uisce Eireann Code of Practice for Wastewater Infrastructure requirement for flow velocities greater than self-cleansing velocity (0.75m/sec) and less than 2.5m/s as per Section 3.6 of the Uisce Eireann Code of Practice for Wastewater Infrastructure.”*

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## 2 LEGISLATIVE AND POLICY CONTEXT

### 2.1 Legislative Background

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats and wild fauna and flora by the designation of SACs and the Birds Directive (2009/147/EC) seeks to protect birds of special importance by the designation of SPAs. The Habitats Directive has been transposed into Irish law through the EC (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011). It is the responsibility of each member state to designate SPAs and SACs, both of which will form part of Natura 2000, a network of protected sites throughout the European Community.

SACs and SPAs are collectively known as “Natura 2000” or “European” sites. SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and other regularly occurring migratory birds and their habitats. The annexed habitats and species for which each site is selected correspond to the Qualifying Interests (QIs) and Special Conservation Interests (SCIs) of the sites; from these the conservation objectives of the site are derived.

An AA is an assessment required prior to the grant of planning permission to determine whether a plan or project, based on best scientific knowledge, will have an adverse effect on the integrity of a European site, either alone or in combination with other plans and projects. It is required for any plan or project not directly connected with or necessary to the management of a site but likely to have a significant effect on it.

An AA is required under Article 6 of the Habitats Directive where a project or plan may give rise to significant effects upon a Natura 2000 site. Paragraph 3 states that:

*“6(3) Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site, in view of the site’s conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.”*

#### 2.1.1 Legislative Context

The obligations in relation to Appropriate Assessment have been implemented in Ireland under Part XAB of the Planning and Development Act 2000, as amended (“the 2000 Act”), and in particular Section 177T and Section 177V thereof in relation to Natura Impact Statements and Appropriate Assessment. The relevant provisions of Section 177T and 177V are set out below:

*“177T.— (1) In this Part— (a) A Natura impact report means a statement for the purposes of Article 6 of the Habitats Directive, of the implications of a Land use plan, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites.*

*(b) A Natura impact statement means a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites.*

*(2) Without prejudice to the generality of subsection (1), a Natura impact report or a Natura impact statement, as the case may be, shall include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites.”*

*(3) ...*

(4) The applicant for consent for proposed development may, or if directed in accordance with subsection (5) by a competent authority, shall furnish a Natura impact statement to the competent authority in relation to the proposed development.

(5) At any time following an application for consent for proposed development a competent authority may give a notice in writing to the applicant concerned, directing him or her to furnish a Natura impact statement.

(6) ...

(7) (a) Without prejudice to subsection (1) a Natura impact report or a Natura impact statement shall include all information prescribed by regulations under section 177AD.

(b) Where appropriate, a Natura impact report or a Natura impact statement shall include such other information or data as the competent authority considers necessary to enable it to ascertain if the draft Land use plan or proposed development will not affect the integrity of the site."

**"177V.—** (1) An appropriate assessment carried out under this Part shall include a determination by the competent authority under Article 6.3 of the Habitats Directive as to whether or not a draft Land use plan or proposed development would adversely affect the integrity of a European site and an appropriate assessment shall be carried out by the competent authority, in each case where it has made a determination under section 177U(4) that an appropriate assessment is required, before—

(a) the draft Land use plan is made including, where appropriate, before a decision on appeal in relation to a draft strategic development zone is made, or

(b) consent is given for the proposed development.

(2) In carrying out an appropriate assessment under subsection (1) the competent authority shall take into account each of the following matters:

(a) the Natura impact report or Natura impact statement, as appropriate;

(b) any supplemental information furnished in relation to any such report or statement;

(c) if appropriate, any additional information sought by the authority and furnished by the applicant in relation to a Natura impact statement;

(d) any additional information furnished to the competent authority at its request in relation to a Natura impact report;

(e) any information or advice obtained by the competent authority;

(f) if appropriate, any written submissions or observations made to the competent authority in relation to the application for consent for proposed development;

(g) any other relevant information.

(3) Notwithstanding any other provision of this Act, or, as appropriate, the Act of 2001, or the Roads Acts 1993 to 2007 and save as otherwise provided for in sections 177X, 177Y, 177AB and 177AC, a competent authority shall make a Land use plan or give consent for proposed development only after having determined that the Land use plan or proposed development shall not adversely affect the integrity of a European site.

(4) Subject to the other provisions of this Act, consent for proposed development may be given in relation to a proposed development where a competent authority has made modifications or attached conditions to the consent where the authority is satisfied to do so having determined that the proposed development would not adversely affect the integrity of the European site if it is carried out in accordance with the consent and the modifications or conditions attaching thereto."

## 2.2 Policy Context

### 2.2.1 Galway City Development Plan 2023-2029

Policies and objectives of the Galway City Development Plan 2023-2029 that are of relevance to this report are outlined in the below policies:

**Policy 5.2 (1)** *Protect European sites that form part of the Natura 2000 network (including Special Protection Areas and Special Areas of Conservation) in accordance with the requirements in the EU Habitats Directive (92/43/EEC), EU Birds Directive (2009/147/EC) and associated national legislation.*

**(2)** *Ensure that all plans or projects within the Plan area will only be authorised and / or supported after the competent authority has ascertained based on scientific evidence, screening for appropriate assessment and /or a Habitats Directive Assessment that: i. The plan or project will not give rise to an adverse direct, indirect or secondary effect on the integrity of any European site (either individually or in combination with other plans or projects); or ii. The plan or project will have an adverse effect on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or iii. The plan or project will have an adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.*

**(4)** *Protect, conserve and support the development of an ecological network throughout the city which will improve the ecological coherence of the Natura 2000 network in accordance with Article 10 of the Habitats Directive.*

**(9)** *Co-operate with the NPWS, landowners and stakeholders in the preparation and implementation of management plans for designated sites and support conservation objectives of lands within Designated Sites for nature conservation Natura 2000 (SAC/SPA) and NHA sites.*

### 2.2.2 Galway City Biodiversity Action Plan 2014-2024 (Present)

Galway City Biodiversity Action Plan 2014-2024 (Present) is set out to protect and improve biodiversity through specific objectives and actions:

#### Objectives:

1. To raise awareness and appreciation of biodiversity Seeks to raise awareness and appreciation of the many benefits of biodiversity among all sectors of society by providing information, education and training opportunities. A change in attitudes is key to protecting the great variety of life contained in the natural world around us and to protect our environment.
2. To maintain and enhance biodiversity within the city Recognises the responsibility of the Local Authority and other state agencies to protect habitats and species of national and international conservation importance, and the potential to enhance biodiversity within the city. Aims to increase public participation in biodiversity initiatives and promotes a partnership approach to conserving biodiversity.
3. To increase our knowledge and understanding of biodiversity Recognises the need for a solid knowledge-base in order to protect biodiversity effectively and the importance of making this information available and accessible to the public and decision makers.

#### Actions:

1. Designate Role of Biodiversity Officer by Formal Managers' Order.
2. Seek Long-term appointment of Full Time Biodiversity Officer.
3. Establish a Biodiversity Forum.
4. Conduct a biological audit for Galway City.
5. Survey attitudes of the people of the Galway to nature and biodiversity.
6. Develop a biodiversity awareness, education and training programme Target audience 1: General public, Target audience 2: City Council staff and officials and Target audience 3: Developers, architects, engineers and landowners.
7. Promote creation of new wildlife habitats in developments including housing estates, industrials GMIT, element sites and golf courses.
8. Promote community participation in nature conservation.
9. Establish a network of Local Biodiversity Areas and associated wildlife corridors.
10. Tree survey and preservation.
11. Key habitat: Urban woodlands and hedgerows.
12. Key habitat: Wetlands and watercourses.
13. Key habitat: Exposed limestone habitats.
14. Key Habitat: Peatlands.
15. Key zone: Coastal zone.
16. Key species group: Bats.
17. Key species group: Birds.
18. Key species group: Small mammals.
19. Key Species: Common swift (*Apus apus*).
20. Key Species: Common seal (*Phoca vitulina*).
21. Key Species: Red squirrel (*Sciurus vulgaris*).
22. Develop appropriate strategies for preventing the introduction and spread of invasive alien species.
23. Support implementation of national Species and National plans Habitat Action Plans within Galway City, as appropriate, and current National Biodiversity Action Plan.

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## 2.3 Stages of Appropriate Assessment

The AA process is a three-stage process. Each stage requires different considerations, assessments and tests to ultimately arrive at the relevant conclusion for each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

The four stages of an AA, can be summarised as follows:

- **Stage 1: Screening.** The Screening for AA considers whether a plan or project is directly connected to or necessary for the management of a European site, or whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a European site in view of its conservation objectives.
- **Stage 2: Natura Impact Statement (NIS).** This stage considers whether the Proposed Development alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site and includes any mitigation measures necessary to avoid, reduce or offset any negative effects. In order to inform this assessment, this NIS has been prepared comprising as it does a targeted professional scientific examination of the Proposed Development and the relevant European sites to identify and characterise any possible implications for any of the relevant European sites in view of their conservation objectives and taking account of in-combination effects. If the assessment is negative i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 3, or the plan or project should be abandoned.
- **Stage 3: Derogation from Article 6(3) under certain circumstances.** If the outcome of Stage 2 is negative i.e., adverse impacts to the sites cannot be scientifically ruled out, despite mitigation, the plan or project should proceed to Stage 3 or be abandoned. Stage 3 requires:
  - Examination of alternative solutions, and, where no alternative solution exists;

- Examining whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project to adversely affect a European site, where no less damaging solution exists.
- Implementation of compensatory measures to maintain the coherence of the Natura 2000 network.

The Habitats Directive promotes a hierarchy of avoidance, mitigation, and compensatory measures. First the project should aim to avoid any negative effects on European sites by identifying possible effects early in the planning stage and designing the project to avoid such effects. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the project is still likely to result in adverse effects, and no further practicable mitigation is possible, a refusal for planning permission may be recommended. In this case, the project will generally only be considered where no alternative solutions are identified and the project is required for IROPI, or, in the case of priority habitats, considerations of health or safety, or beneficial consequences of primary importance for the environment or to other IROPI. Then compensation measures are required for any remaining adverse effects.

## 2.4 Stage 1: Appropriate Assessment Screening Conclusion

An AA Screening Report was prepared for the Proposed Development by DNV Consulting in July 2025 (DNV, 2025a).

The conclusion of the AA Screening Report is as follows:

*“The Proposed Development at Galway Port, Galway has been assessed taking into account:*

- *The nature, size and location of the proposed works and possible impacts arising from the construction works.*
- *The QIs and conservation objectives of the European sites*
- *The potential for in-combination effects arising from other plans and projects.*

*In conclusion, upon the examination, analysis and evaluation of the relevant information and applying the precautionary principle, it is concluded by the authors of this report that the possibility **cannot be excluded** that the Proposed Development will have a likely significant effect on any of the European sites listed below:*

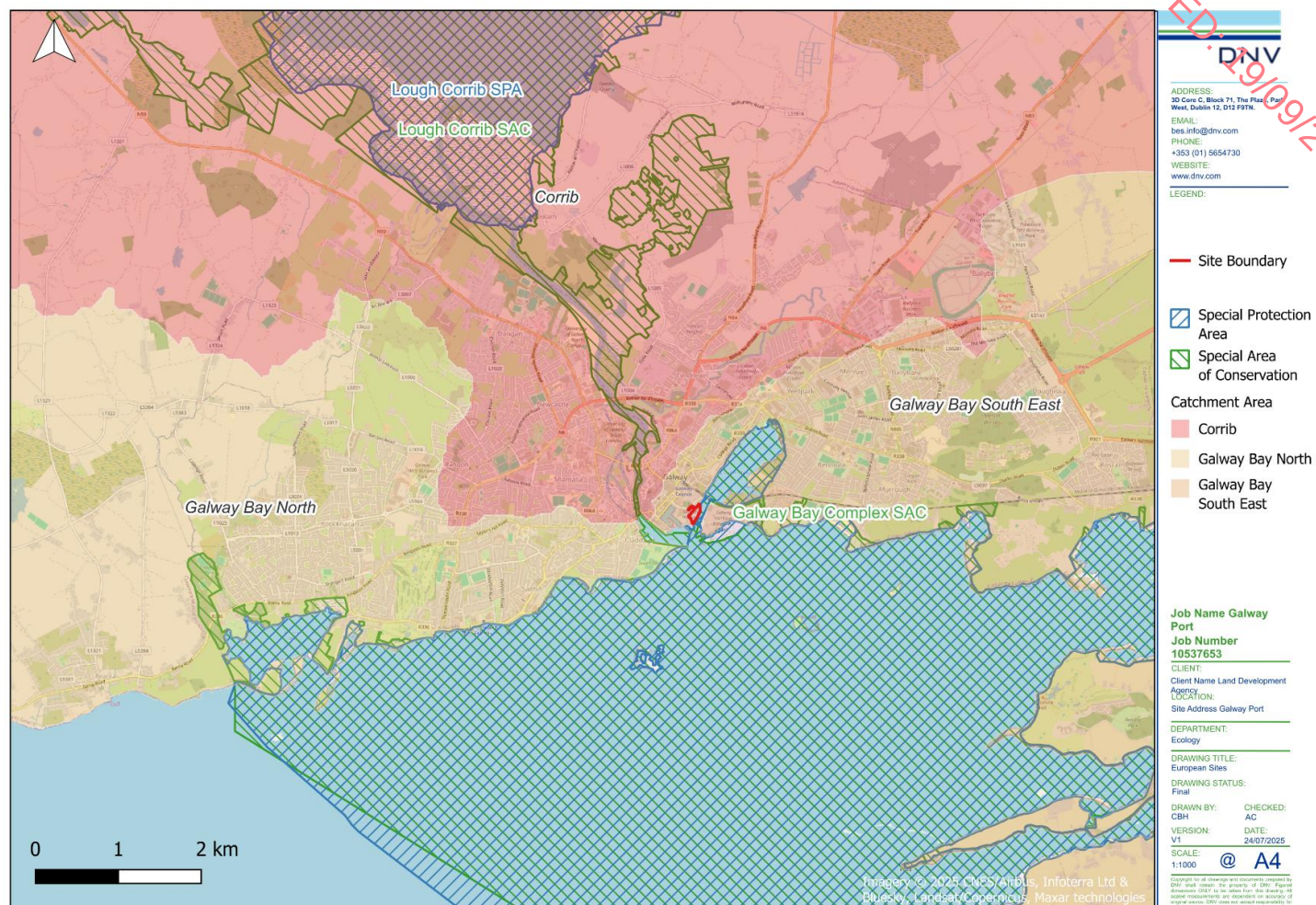
- *Inner Galway Bay SPA (004031)*
- *Galway Bay Complex SAC (000268)*
- *Lough Corrib SAC (000297)*
- *Lough Corrib SPA (004042)*

*On the basis of the screening exercise carried out above, it can be concluded, on the basis of the best scientific knowledge available and objective information, that the possibility of any significant effects on the above listed European sites, whether arising from the project itself or in combination with other plans and projects, cannot be excluded in light of the above listed European sites' conservation objectives. Thus, there is a requirement to proceed to Stage 2 of the Appropriate Assessment process; and a NIS will be prepared as part of a future Planning Application.”*

As such, this NIS will assess the potential effects of the Proposed Development on:

- *Inner Galway Bay SPA (004031),*
- *Galway Bay Complex SAC (000268),*
- *Lough Corrib SAC (000297)*
- *Lough Corrib SPA (004042).*

These sites are linked to the Proposed Development via hydrological, land, and/or air pathways.



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FIGURE 5. RELEVANT EUROPEAN SITES AS IDENTIFIED IN AA SCREENING (DNV, 2025A)

## 3 NIS METHODOLOGY

### 3.1 Guidance

This NIS has been undertaken in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities*. (Department of Environment, Heritage and Local Government, 2010 revision);
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities*. Circular NPW 1/10 & PSSP 2/10;
- NPWS Presentation: Updates and Learnings from Current Practice (Paul Scott, Ecological Guidance and Advisory Unit, March 2024) - This presentation provides current insights, case law updates, and practical advice for implementing AA, including procedural steps, conservation objectives, and mitigation consideration;
- *Communication from the Commission on the precautionary principle* (European Commission, 2000);
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission, 2019);
- *Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2021);
- *Appropriate Assessment Screening for Development Management, OPR Practice Note PN01, Office of the Planning Regulator March 2021; and*
- *Amendments to section 42 of the Planning and Development Act 2000, as amended and associated Planning and Development Regulations 2001. Department of the Environment, Heritage and Local Government. (2021). Circular Letter: EUIPR 01/2021.*

### 3.2 NIS Steps

The Natura Impact Statement (NIS) has been prepared in accordance with the requirements of Article 6(3) of the Habitats Directive and follows a structured assessment process comprising the following steps:

- Description of the baseline environment at the location of the Proposed Development, including relevant ecological features and environmental conditions.
- Identification of relevant European sites (Natura 2000 sites) that could potentially be affected by the Proposed Development, based on the findings of the Screening for Appropriate Assessment (DNV 2025a).
- Compilation and review of site-specific information for each relevant European site, including conservation objectives, qualifying interests (QIs) or special conservation interests (SCIs), site vulnerabilities, and ecological sensitivities.
- Identification and detailed description of potential direct, indirect, and cumulative effects of the Proposed Development on the integrity of each relevant European site, with specific reference to their QIs/SCIs and site-specific conservation objectives (SSCOs), where available.
- Assessment of the likelihood and significance of effects on each European site, applying the precautionary principle and considering the potential for adverse effects on site integrity, either alone or in combination with other plans or projects.
- Consideration of other plans or projects that may act in combination with the Proposed Development to give rise to significant effects on the relevant European sites.
- Identification and detailed description of mitigation measures that are necessary to avoid or reduce adverse effects on the integrity of European sites, ensuring that such measures are precise, enforceable, and capable of being implemented in full.

- Conclusion of the assessment, confirming whether, in light of the mitigation measures proposed, the Proposed Development will not adversely affect the integrity of any European site, thereby enabling the Competent Authority to make a determination in accordance with Article 6(3).

### 3.3 Desk Study

A desktop study was carried out to collate and review available information, datasets and documentation sources relevant for the completion of the NIS. The desktop study, completed in January 2025, relied on the following sources:

- Information on the network of European sites, relevant boundaries, QIs and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at [www.npws.ie](http://www.npws.ie) and the European Environment Agency (EEA) at <https://natura2000.eea.europa.eu/>;
- Information on the status of EU protected habitats and species in Ireland, obtained from the NPWS Article 17 reports;
- Text summaries of the relevant European sites taken from the respective Site Synopses for each site, available at [www.npws.ie](http://www.npws.ie);
- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at [www.gis.epa.ie](http://www.gis.epa.ie);
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at [www.gsi.ie](http://www.gsi.ie);
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing and Ordnance Survey Ireland; and
- Information on the extent, nature and location of the Proposed Development, provided by the applicant and their design team.

A comprehensive list of all the specific documents and information sources consulted in the completion of this report is provided in Section 6 - References.

### 3.4 Field Surveys

Several field surveys have been completed to date. These are summarised in Table 1. For full details on the methods and results of the fields surveys listed, please refer to the Biodiversity Chapter of the EIAR accompanying this application under separate cover. All surveys were carried out at the appropriate time of year by suitably qualified ecologists. No limitations to field surveys were encountered which would prevent robust conclusions being drawn as to the potential impacts of the Proposed Development. Results relevant to this Screening Report have been summarised in Section 2.4.

**TABLE 1. FIELD SURVEYS UNDERTAKEN AT THE PROPOSED DEVELOPMENT SITE.**

| Survey                                                                                                                                                                                                                                                                                               | Surveyor            | Dates                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------|
| Preliminary Site Walkover including: <ul style="list-style-type: none"> <li>• Habitats (as per Fossitt, 2000) &amp; invasive flora;</li> <li>• Bird scoping;</li> <li>• Bat roost and habitat suitability;</li> <li>• Mammals;</li> <li>• Herpetofauna;</li> <li>• General fauna surveys.</li> </ul> | Ecologist, DNV (HR) | 2 <sup>nd</sup> May 2024 |

| Survey                       | Surveyor                               | Dates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Winter Bird Surveys          | Ecologist/Ornithologist,<br>DNV (BMcC) | <b>October</b><br>31 <sup>st</sup> October 2024<br><br><b>November</b><br>12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br><br><b>December</b><br>16 <sup>th</sup> December 2024<br><br><b>January</b><br>6 <sup>th</sup> January 2025<br>20 <sup>th</sup> January 2025<br><br><b>February</b><br>4 <sup>th</sup> February 2025<br>19 <sup>th</sup> February 2025<br>28 <sup>th</sup> February 2025<br><br><b>March</b><br>5 <sup>th</sup> March 2025<br>21 <sup>st</sup> March 2025<br>31 <sup>st</sup> March 2025 |
| Dedicated Otter Survey       | Ecologist, DNV (SC)                    | 4 <sup>th</sup> June 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Bat Activity Transect Survey | Ecologists, DNV (SC & BMcC)            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Breeding Bird Scoping Survey | Ecologist/Ornithologist,<br>DNV (BMcC) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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### 3.5 Impact Prediction

Potential impacts on the relevant European site(s) identified during the AA Screening are based on information regarding their QIs and/or SCI species, and the attributes and targets relating to their SSCOs where available. These have been informed by the desk study and any field surveys carried out prior to the preparation of this report.

Impact prediction is based on the Source-Pathway-Receptor (S-P-R) model. The following describes the steps of the S-P-R approach taken in this NIS:

- Potential sources of effects were identified based on the Proposed Development description and details, including changes to potentially suitable ex-situ habitats at the Site (i.e., habitats utilised by Species of Conservation Importance (SCI) bird species outside of their designated SPAs).
- Up-to-date GIS spatial datasets for water catchments as well as any information from relevant site investigations and/or field surveys were used to identify the QIs/ SCIs within the relevant European site(s) that have a notable S-P-R connection to the Proposed Development:
  - The catchment data were used to establish or discount potential hydrological connectivity between the Proposed Development and any QIs/SCIs.
  - Groundwater and bedrock information used to establish or discount potential hydrogeological connectivity between the Proposed Development and any QIs/SCIs.
  - Air and land connectivity assessed based on Proposed Development details and proximity to QIs/SCIs.
  - Consideration of potential indirect pathways, e.g., impacts to flight paths, *ex-situ* habitats, etc.
- Identification of potential impacts for those QIs/SCIs linked to the Proposed Development via notable S-P-R connections.

Where the preceding steps identified any potential for adverse impacts on any QIs/SCIs for the relevant European site(s), appropriate mitigation measures to eliminate the potential for significant adverse effects are identified in this report.

### 3.6 Limitations

No limitations were encountered which would prevent robust conclusions from being drawn as to the potential impacts of the Proposed Development and therefore the likely significant effects on the European site, in view of the site's conservation objectives.

## 4 NATURA IMPACT STATEMENT

### 4.1 Existing Environment

#### 4.1.1 Desk Study Results

##### 4.1.1.1 Hydrology, Geology and Hydrogeology

The Site is located in the *Galway Bay South-East* Catchment (I.D. 29) and in the *Carrowmoneash [Oranmore]\_SC\_010* sub-catchment (I.D. 29\_6).

The Site of the Proposed Development is located approximately 600m to the east of the River Corrib (IE\_WE\_30C020600). The River Corrib deposits into the Corrib Estuary transitional waterbody (IE\_WE\_170\_0700), which is immediately adjacent to the Site of the Proposed Development. The Site is situated on the *Clarínbridge* groundwater body (IE\_WE\_G\_0008), and the vulnerability to contamination of said groundwater from human activities is classified as predominantly 'Low', with a small section to the south of the Site being classified as 'Moderate' (GSI, 2025). The Aquifer type in the surrounding area is 'Locally Important Aquifer – Bedrock which is Moderately Productive only in Local Zones' (GSI, 2025).

The soil underneath the Site of the Proposed Development is classified as 'Deep well drained mineral soil derived from mainly basic parent materials' and 'Made,' and the underlying quaternary sediments are a combination of 'Urban' and 'Till derived from limestones' (GSI, 2025). The Waterbody Status for the waterbodies relevant to the Site as recorded by the EPA (2022) in accordance with European Communities Regulations 2003 (SI no. 722/2003) are provided in Table 2.

**TABLE 2. WFD RISK AND WATER BODY STATUS**

| Waterbody Name                | Water body; EU code | Location from Site | Distance from Site (km) | WFD water body status (2016-2021) | WFD 3 <sup>rd</sup> cycle Risk Status | Hydraulic Connection to the Site |
|-------------------------------|---------------------|--------------------|-------------------------|-----------------------------------|---------------------------------------|----------------------------------|
| <b>Surface Water Bodies</b>   |                     |                    |                         |                                   |                                       |                                  |
| River Corrib                  | IE_WE_30 C020600    | West               | 0.62                    | Good                              | Not at risk                           | Upstream of the Site             |
| Corrib Estuary                | IE_WE_170_0700      | South              | Adjoining               | Moderate                          | Not at risk                           | Immediately adjacent to the Site |
| <b>Groundwater Bodies</b>     |                     |                    |                         |                                   |                                       |                                  |
| Clarínbridge Groundwater Body | IE_EA_G_0008        | N/A                | N/A                     | Good                              | Review                                | Underlying groundwater-body      |

### 4.2 Relevant Field Survey results

#### 4.2.1.1 Habitats & Flora

The Site is a heavily modified and anthropogenically influenced area, primarily consisting of buildings and artificial surfaces (classified as BL3 – Buildings and Artificial Surfaces), dominated by hardstanding area, with few buildings are present on Site. Currently the Site is used for storage purposes, a detailed description of current land use is provided in Section 1.3.2 above. These land cover types are widely recognized as offering negligible ecological value due to their impermeable nature, lack of soil structure,

and absence of natural vegetation. The dominance of hardstanding and built infrastructure across the Site significantly limits opportunities for colonization by native flora and fauna.

A small, low-quality patch of dry meadows and grassy verge (GS2) is present along the northeast, northwest, and northern boundaries of the Site. However, this habitat is fragmented, species-poor, and lacks structural diversity. It appears to be the result of incidental colonization rather than intentional ecological management, and it does not support any notable plant species or communities of conservation interest. No trees, shrubs, or flowering plants of ecological significance were recorded during the site survey, further underscoring the limited biodiversity value of the area.

Within the footprint of the Proposed Development, vegetation is virtually absent, with the exception of the aforementioned GS2 habitat. The lack of vegetative cover is indicative of made ground conditions, where soil profiles are often disturbed, compacted, or replaced with construction fill, rendering them unsuitable for the establishment of diverse or native plant communities.

Importantly, no invasive alien plant species were identified on the Site, with the sole exception of a single stand of sycamore (*Acer pseudoplatanus*) located in the northeast section. While sycamore is not listed as a high-risk invasive species in Ireland, its presence is consistent with disturbed or unmanaged urban environments and does not contribute positively to the ecological value of the Site.

The Proposed Development overlaps with one European site (*Galway Bay Complex SAC*) and occurs directly adjacent to Inner Galway Bay SPA.

It should be noted, however, that while there is some overlap on the mapped boundary for Annex I - 1130 estuaries habitat (Figure 6), this is considered a digitisation<sup>4</sup> error as there is no actual overlap in the real world as the Site comprises built land. Therefore, the Site does not support any habitats of European conservation importance, more specifically Qualifying Interest (QI) habitats associated with the Galway Bay Complex SAC (or Lough Corrib SAC which lies 5km north) and is not functionally connected to these designated European sites.

In summary, the Site is characterized by artificial surfaces, disturbed ground, and low-quality, species-poor vegetation. These features collectively indicate that the Site is of low ecological value and is representative of made ground with limited potential for supporting biodiversity.

Photographs of the Site are included in Appendix I – while the habitats present on Site are shown in Figure 6 below.

<sup>4</sup> Special Area of Conservation (SAC) boundaries provided by the National Parks and Wildlife Service (NPWS) are currently presented in the Irish Transverse Mercator (ITM) projection. Most boundaries were originally digitised from Ordnance Survey of Ireland 1:10,560 six-inch raster mapping in the Irish Grid projection. While suitable for general planning and assessment, these legacy boundaries may contain minor inaccuracies such as gaps, overlaps, or misalignments, particularly near county borders. NPWS is actively updating SAC boundaries using modern 1:5,000 OSI vector mapping in ITM. These revised boundaries will be formalised through Statutory Instruments (SIs) as they are completed. Over time, the dataset will increasingly reflect this improved spatial accuracy.



FIGURE 6. HABITAT MAP SHOWING HABITATS PRESENT ON SITE (QGIS, 2025).

#### 4.2.1.2 Fauna

Given the heavily modified and artificial nature of the Site, the ecological value for local wildlife is minimal and the results of the ecological surveys confirmed this. The dominance of buildings and artificial surfaces (BL3) means there is very little natural habitat available to support wildlife. A small patch of dry meadows and grassy verge (GS2) exists along the site's boundaries, but it is of low quality and unlikely to sustain a diverse or significant population of species. The absence of trees, shrubs, or flowering plants of note further reduces the site's attractiveness to birds, pollinators, and small mammals. The lack of structural and botanical diversity means the Site offers few resources such as food, shelter, or nesting opportunities, and no evidence of protected or notable species was recorded during the Site visit, suggesting it does not currently support any species of conservation concern.

Additionally, the Site is not connected to any Qualifying Interest (QI) habitats of nearby Special Areas of Conservation (SACs), such as the Galway Bay Complex or Lough Corrib, and therefore does not function as a corridor or buffer zone for protected ecosystems.

While the Site itself does not provide suitable breeding/foraging habitat for any mammals, the adjacent waters in Galway Bay do. Species such as otter (*Lutra lutra*) and harbour seal (*Phoca vitulina*), both of which are QI species for which *Galway Bay Complex SAC* is designated, may actively use these waters for foraging/commuting. Given this, these species might additionally opportunistically use the Site given its proximity to their suitable habitats (especially a mobile species such as otter). The Site has no potential to act as roosting/commuting/foraging habitat for any other QI species associated with either *Galway Bay Complex SAC* or *Lough Corrib SAC*, including lesser horseshoe bat (*Rhinolophus hipposideros*).

Furthermore, the proximity of the Site to the *Inner Galway Bay SPA* implies that the Site could be used by SCI bird species. As such, winter bird surveys have been conducted (October 2024 – March 2025 inclusive).

A total 37 species of bird had been observed during the winter bird surveys either on, in the vicinity of, or flying over the Site. Of these, 8 are red-listed and 20 are amber listed (Gilbert *et al.*, 2021) as described in Table 3. Some 13 species are also associated with the adjacent *Inner Galway Bay SPA*.

**TABLE 3. BIRDS RECORDED AT THE PROPOSED DEVELOPMENT SITE DURING WINTERING BIRD SURVEYS. THOSE SPECIES THAT ARE ALSO SCI SPECIES OF INNER GALWAY BAY SPA ARE HIGHLIGHTED IN AMBER.**

| Species               | Scientific name            | BoCCI Status | Dates recorded                                                                                                                                                      | Activity                                              |
|-----------------------|----------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Cormorant             | <i>Phalacrocorax carbo</i> | Amber        | 31 <sup>st</sup> October 2024<br>12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>5 <sup>th</sup> March 2025<br>21 <sup>st</sup> March 2025      | Flyover at the Site and seen in Lough Atalia.         |
| Mallard               | <i>Anas platyrhynchos</i>  | Green        | 31 <sup>st</sup> October 2024<br>25 <sup>th</sup> November 2024<br>20 <sup>th</sup> January 2025<br>19 <sup>th</sup> February 2025                                  | Flyover at the Site and seen in Lough Atalia.         |
| European Herring Gull | <i>Larus argentatus</i>    | Red          | 31 <sup>st</sup> October 2024<br>12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024<br>6 <sup>th</sup> January 2025 | Regular flyover at the Site and seen in Lough Atalia. |

| Species                 | Scientific name          | BoCCI Status | Dates recorded                                                                                                                                                                                                                                                          | Activity                                                                                      |
|-------------------------|--------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|                         |                          |              | 20 <sup>th</sup> January 2025<br>19 <sup>th</sup> February 2025<br>28 <sup>th</sup> February 2025<br>5 <sup>th</sup> March 2025<br>21 <sup>st</sup> March 2025<br>31 <sup>st</sup> March 2025                                                                           |                                                                                               |
| Linnet                  | <i>Linaria cannabina</i> | Amber        | 31 <sup>st</sup> October 2024                                                                                                                                                                                                                                           | Seen in the vicinity of the Site                                                              |
| Kingfisher              | <i>Alcedo atthis</i>     | Amber        | 31 <sup>st</sup> October 2024<br>12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024<br>6 <sup>th</sup> January 2025<br>20 <sup>th</sup> January 2025<br>4 <sup>th</sup> February 2025<br>19 <sup>th</sup> February 2025 | Regularly seen in the vicinity of the Site, along adjacent water channel and in Lough Atalia. |
| Mute Swan               | <i>Cygnus olor</i>       | Amber        | 31 <sup>st</sup> October 2024<br>12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024<br>28 <sup>th</sup> February 2025<br>5 <sup>th</sup> March 2025<br>31 <sup>st</sup> March 2025                                      | Regularly seen in the vicinity of the Site, along adjacent water channel and in Lough Atalia. |
| Wigeon                  | <i>Mareca penelope</i>   | Red          | 31 <sup>st</sup> October 2024<br>12 <sup>th</sup> November 2024<br>19 <sup>th</sup> February 2025                                                                                                                                                                       | Seen in Lough Atalia.                                                                         |
| Teal                    | <i>Anas crecca</i>       | Amber        | 31 <sup>st</sup> October 2024<br>12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024<br>19 <sup>th</sup> February 2025                                                                                                   | Seen in Lough Atalia.                                                                         |
| Greenshank              | <i>Tringa nebularia</i>  | Green        | 31 <sup>st</sup> October 2024<br>12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024<br>19 <sup>th</sup> February 2025                                                                                                   | Seen in Lough Atalia.                                                                         |
| Great Black backed Gull | <i>Larus marinus</i>     | Amber        | 31 <sup>st</sup> October 2024<br>12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024                                                                                                                                                                       | Regular flyover at the Site and seen in Lough Atalia.                                         |

| Species       | Scientific name               | BoCCI Status | Dates recorded                                                                                                                                                                                                                         | Activity                                                                     |
|---------------|-------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
|               |                               |              | 16 <sup>th</sup> December 2024<br>20 <sup>th</sup> January 2025<br>19 <sup>th</sup> February 2025<br>5 <sup>th</sup> March 2025<br>31 <sup>st</sup> March 2025                                                                         |                                                                              |
| Curlew        | <i>Numenius arquata</i>       | Red          | 31 <sup>st</sup> October 2024                                                                                                                                                                                                          | Seen in Lough Atalia.                                                        |
| Grey Heron    | <i>Ardea cinerea</i>          | Green        | 12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024<br>19 <sup>th</sup> February 2025<br>28 <sup>th</sup> February 2025                                                                 | Seen in adjacent water channel and in Lough Atalia.                          |
| House Sparrow | <i>Passer domesticus</i>      | Amber        | 12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024                                                                                                                                                                       | Seen on Site, in the vicinity of the Site, and along adjacent water channel. |
| Starling      | <i>Sturnus vulgaris</i>       | Amber        | 31 <sup>st</sup> October 2024<br>12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024                                                                                                                                      | Seen on Site, in the vicinity of the Site, and along adjacent water channel. |
| Little Grebe  | <i>Tachybaptus ruficollis</i> | Amber        | 12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024                                                                                                                                                                       | Seen in Lough Atalia.                                                        |
| Gadwall       | <i>Mareca strepera</i>        | Amber        | 12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024<br>20 <sup>th</sup> January 2025<br>4 <sup>th</sup> February 2025                                                                   | Seen in Lough Atalia.                                                        |
| Redshank      | <i>Tringa totanus</i>         | Red          | 12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024<br>6 <sup>th</sup> January 2025<br>20 <sup>th</sup> January 2025<br>4 <sup>th</sup> February 2025<br>19 <sup>th</sup> February 2025 | Flyover along adjacent water channel and seen in Lough Atalia.               |
| Turnstone     | <i>Arenaria interpes</i>      | Green        | 12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024<br>6 <sup>th</sup> January 2025<br>4 <sup>th</sup> February 2025                                                                    | Seen in Lough Atalia.                                                        |
| Lapwing       | <i>Vanellus vanellus</i>      | Red          | 12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024                                                                                                                                     | Seen in Lough Atalia.                                                        |

| Species           | Scientific name              | BoCCI Status | Dates recorded                                                                                                                                                                                                                                                                                                                                                                                        | Activity                                                                     |
|-------------------|------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Snipe             | <i>Gallinago gallinago</i>   | Amber        | 12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024                                                                                                                                                                                                                                                                                                                                      | Seen in Lough Atalia.                                                        |
| Common Gull       | <i>Larus canus</i>           | Amber        | 12 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024<br>6 <sup>th</sup> January 2025<br>20 <sup>th</sup> January 2025<br>4 <sup>th</sup> February 2025<br>19 <sup>th</sup> February 2025<br>28 <sup>th</sup> February 2025<br>5 <sup>th</sup> March 2025<br>21 <sup>st</sup> March 2025                                                                                                   | Regular flyover at the Site and seen in Lough Atalia.                        |
| Ringed Plover     | <i>Charadrius hiaticula</i>  | Green        | 12 <sup>th</sup> November 2024                                                                                                                                                                                                                                                                                                                                                                        | Seen in Lough Atalia.                                                        |
| Black-headed Gull | <i>Larus ridibundus</i>      | Red          | 31 <sup>st</sup> October 2024<br>12 <sup>th</sup> November 2024<br>25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024<br>6 <sup>th</sup> January 2025<br>20 <sup>th</sup> January 2025<br>4 <sup>th</sup> February 2025<br>19 <sup>th</sup> February 2025<br>28 <sup>th</sup> February 2025<br>5 <sup>th</sup> March 2025<br>21 <sup>st</sup> March 2025<br>31 <sup>st</sup> March 2025 | Regular flyover at the Site and seen in Lough Atalia.                        |
| Little Egret      | <i>Egretta garzetta</i>      | Green        | 25 <sup>th</sup> November 2024<br>6 <sup>th</sup> January 2025<br>20 <sup>th</sup> January 2025                                                                                                                                                                                                                                                                                                       | Flyover along adjacent water channel.                                        |
| Shelduck          | <i>Tadorna tadorna</i>       | Amber        | 25 <sup>th</sup> November 2024<br>16 <sup>th</sup> December 2024                                                                                                                                                                                                                                                                                                                                      | Seen in Lough Atalia.                                                        |
| Greenfinch        | <i>Chloris chloris</i>       | Amber        | 25 <sup>th</sup> November 2024<br>19 <sup>th</sup> February 2025                                                                                                                                                                                                                                                                                                                                      | Seen on Site, in the vicinity of the Site, and along adjacent water channel. |
| Peregrine Falcon  | <i>Falco peregrinus</i>      | Green        | 6 <sup>th</sup> January 2025<br>4 <sup>th</sup> February 2025                                                                                                                                                                                                                                                                                                                                         | Seen flying over the Site.                                                   |
| Meadow Pipit      | <i>Anthus pratensis</i>      | Red          | 20 <sup>th</sup> January 2025<br>5 <sup>th</sup> March 2025                                                                                                                                                                                                                                                                                                                                           | Seen using the Site.                                                         |
| Stock Dove        | <i>Columba oenas</i>         | Red          | 20 <sup>th</sup> January 2025                                                                                                                                                                                                                                                                                                                                                                         | Flew over the Site.                                                          |
| Oystercatcher     | <i>Haematopus ostralegus</i> | Red          | 20 <sup>th</sup> January 2025<br>19 <sup>th</sup> February                                                                                                                                                                                                                                                                                                                                            | In the waters adjacent to the Site.                                          |

| Species                  | Scientific name                  | BoCCI Status | Dates recorded                                                  | Activity                                         |
|--------------------------|----------------------------------|--------------|-----------------------------------------------------------------|--------------------------------------------------|
|                          |                                  |              | 21 <sup>st</sup> March 2025                                     |                                                  |
| Hooded Crow              | <i>Corvus cornix</i>             | Green        | 4 <sup>th</sup> February 2025                                   | In waters adjacent to the Site.                  |
| Great Northern Diver     | <i>Gavia immer</i>               | Amber        | 4 <sup>th</sup> February 2025<br>28 <sup>th</sup> February 2025 | Flew adjacent to the Site.                       |
| Rock Pipit               | <i>Anthus petrosus</i>           | Green        | 5 <sup>th</sup> March 2025<br>31 <sup>st</sup> March 2025       | Calling and singing in the vicinity of the Site. |
| Guillemot                | <i>Uria aalge</i>                | Amber        | 21 <sup>st</sup> March 2025                                     | Recorded offshore in the vicinity of the Site.   |
| Shag                     | <i>Phalacrocorax aristotelis</i> | Amber        | 21 <sup>st</sup> March 2025                                     | Recorded offshore in the vicinity of the Site.   |
| Red-throated Diver       | <i>Gavia stellata</i>            | Amber        | 21 <sup>st</sup> March 2025                                     | Recorded offshore in the vicinity of the Site.   |
| Sandwich Tern            | <i>Sterna sandvicensis</i>       | Amber        | 21 <sup>st</sup> March 2025                                     | Recorded offshore in the vicinity of the Site.   |
| Lesser Black-backed Gull | <i>Larus fuscus</i>              | Amber        | 31 <sup>st</sup> March 2025                                     | Flew over the Site.                              |

To inform an evaluation of the on-site habitats for bird species, a single breeding bird survey was carried out on the 2<sup>nd</sup> of June 2025 to determine the requirement for a suite of breeding bird surveys during the 2025 bird nesting season (March – August 2025). It was determined that further breeding bird surveys were not required. The results of this survey determined that there were no signs of breeding birds using the Site. Some flyovers were observed, this included common species such as Blackbird (*Turdus merula*). Several Common Tern (*Sterna hirundo*) were recorded using the estuary. This species is known to breed in Lough Atalia. Finally, Kingfisher (*Alcedo atthis*) was observed flying along the estuary also. In total, four amber listed species were recorded during the breeding bird surveys, while the rest were green listed species. No red listed species were recorded. The complete list of results for these surveys are provided in the table below (Table 4).

**TABLE 4: BIRDS RECORDED AT THE PROPOSED DEVELOPMENT SITE DURING BREEDING BIRD SURVEYS. THOSE SPECIES THAT ARE ALSO SCI SPECIES OF INNER GALWAY BAY SPA (004031) ARE HIGHLIGHTED IN AMBER.**

| Species           | Scientific name         | BoCCI Status | Dates recorded            | Activity                                                                                                                           |
|-------------------|-------------------------|--------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Blackbird         | <i>Turdus merula</i>    | Green        | 4 <sup>th</sup> June 2025 | Possible breeder. Species observed in breeding season in suitable nesting habitat                                                  |
| Black-headed Gull | <i>Larus ridibundus</i> | Amber        | 4 <sup>th</sup> June 2025 | Non-breeding. Flyovers only.                                                                                                       |
| Common Tern       | <i>Sterna hirundo</i>   | Amber        | 4 <sup>th</sup> June 2025 | The birds nesting on Lough Atalia were flying up and down the river and over the site carrying food from the sea back to the lake. |
| Grey Heron        | <i>Ardea cinerea</i>    | Green        | 4 <sup>th</sup> June 2025 | Non-breeder. Feeding along the river. (outside the RLB)                                                                            |

| Species      | Scientific name                | BoCCI Status | Dates recorded            | Activity                                                                                                                         |
|--------------|--------------------------------|--------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Herring Gull | <i>Larus argentatus</i>        | Amber        | 4 <sup>th</sup> June 2025 | Possible breeder. Species observed in breeding season in suitable nesting habitat                                                |
| Kingfisher   | <i>Alcedo atthis</i>           | Amber        | 4 <sup>th</sup> June 2025 | Almost certainly breeding along the river (outside RLB).                                                                         |
| Linnet       | <i>Linaria cannabina</i>       | Amber        | 4 <sup>th</sup> June 2025 | Possible breeder. Species observed in breeding season in suitable nesting habitat                                                |
| Mallard      | <i>Anas platyrhynchos</i>      | Amber        | 4 <sup>th</sup> June 2025 | Four on the river (outside the RLB)                                                                                              |
| Pied Wagtail | <i>Motacilla alba yarrelli</i> | Green        | 4 <sup>th</sup> June 2025 | Probable breeding. Pair observed in suitable nesting habitat in breeding season                                                  |
| Robin        | <i>Erithacus rubecula</i>      | Green        | 4 <sup>th</sup> June 2025 | Probable breeding. Pair observed in suitable nesting habitat in breeding season (in vegetation along river i.e. outside the RLB) |
| Rock Pipit   | <i>Anthus petrosus</i>         | Green        | 4 <sup>th</sup> June 2025 | Probable breeding. Pair observed in suitable nesting habitat in breeding season (along river i.e. outside the RLB)               |
| Swallow      | <i>Hirundo rustica</i>         | Amber        | 4 <sup>th</sup> June 2025 | Non-breeder. Foraging over the Site.                                                                                             |
| Wren         | <i>Troglodytes troglodytes</i> | Green        | 4 <sup>th</sup> June 2025 | Probable breeding. Pair observed in suitable nesting habitat in breeding season (in vegetation just outside the RLB)             |

The full results of all surveys conducted to date are available in the Biodiversity Chapter (of the EIAR) for the Proposed Development.

### 4.3 Summary Of Relevant European Sites

The following descriptions of the relevant habitats and species occurring within the European site(s) considered in this NIS have been extracted from the Standard Data Forms (EEA, 2025), Site Synopses (NPWS 2015, 2014a, 2014b, 2012) and any supporting documents available for the relevant site(s).

#### 4.3.1 Galway Bay Complex SAC (000268)

The following descriptions of the *Galway Bay Complex* SAC have been extracted from the NPWS Site Synopsis data (NPWS, 2015):

*“Situated on the west coast of Ireland, this site comprises the inner, shallow part of a large bay which is partially sheltered by the Aran Islands. The Burren karstic limestone fringes the southern sides and extends into the sublittoral. West of Galway city the bedrock geology is granite. There are numerous shallow and intertidal inlets on the eastern and southern sides, notably Muckinish, Aughinish and Kinvarra Bays. A number of small islands composed of glacial deposits are located along the eastern side. These include Eddy Island, Deer Island and Tawin Island. A diverse range of marine, coastal and terrestrial habitats, including several listed on Annex I of the E.U. Habitats Directive, occur within the site, making the area of high scientific importance.*

*This large coastal site is of immense conservation importance, with many habitats listed on Annex I of the E.U. Habitats Directive, four of which have priority status (lagoon, Cladium fen, turlough and orchid-rich calcareous grassland). The examples of shallow bays, reefs, lagoons and saltmarshes found within this site are amongst the best in the country. The site supports an important Common Seal colony and a breeding Otter population (Annex II species), and six regular Annex I E.U. Birds Directive species. The site also has four Red Data Book plant species, plus a host of rare or scarce marine and lagoonal animal and plant species.”*

#### 4.3.2 Inner Galway Bay SPA (004031)

The following descriptions of the *Inner Galway Bay SPA* have been extracted from the NPWS Site Synopsis data (NPWS, 2019):

*“Inner Galway Bay SPA is a very large, marine-dominated site situated on the west coast of Ireland. The inner bay is protected from exposure to Atlantic swells by the Aran Islands and Black Head. Subsidiary bays and inlets (e.g. Poul-na-clough, Aughinish and Kinvarra Bays) add texture to the patterns of water movement and sediment deposition, which lends variety to the marine habitats and communities. The terraced Carboniferous (Viséan) limestone platform of the Burren sweeps down to the shore and into the sublittoral. The long shoreline is noted for its diversity, and comprises complex mixtures of bedrock shore, shingle beach, sandy beach and fringing salt marshes. Intertidal sand and mud flats occur around much of the shoreline, with the largest areas being found on the sheltered eastern coast between Oranmore Bay and Kinvarra Bay. A number of small islands and rocky islets in the Bay are included within the site.*

*Inner Galway Bay SPA is of high ornithological importance with two wintering species having populations of international importance and a further sixteen wintering species having populations of national importance. The breeding colonies of Sandwich Tern, Common Tern and Cormorant are also of national importance. Also of note is that six of the regularly occurring species are listed on Annex I of the E.U. Birds Directive, i.e. Black-throated Diver, Great Northern Diver, Golden Plover, Bar tailed Godwit, Sandwich Tern and Common Tern. Inner Galway Bay is a Ramsar Convention site and part of the Inner Galway Bay SPA is a Wildfowl Sanctuary.”*

#### 4.3.3 Lough Corrib SAC (000297)

The following descriptions of the *Lough Corrib* SAC have been extracted from the NPWS Site Synopsis data (NPWS, 2022):

*"Lough Corrib is situated to the north of Galway city and is the second largest lake in Ireland, with an area of approximately 18,240 ha (the entire site is 20,556 ha). The lake can be divided into two parts: a relatively shallow basin, underlain by Carboniferous limestone, in the south, and a larger, deeper basin, underlain by more acidic granite, schists, shales and sandstones to the north. The surrounding lands to the south and east are mostly pastoral farmland, while bog and heath predominate to the west and north. A number of rivers are included within the cSAC as they are important for Atlantic Salmon. These rivers include the Clare, Grange, Abbert, Sinking, Dalgan and Black to the east, as well as the Cong, Bealanabrack, Failmore, Cornamona, Drimneen and Owenriff to the west. In addition to the rivers and lake basin, adjoining areas of conservation interest, including raised bog, woodland, grassland and limestone pavement, have been incorporated into the site."*

*The main threats to the quality of this site are from water polluting activities resulting from intensification of agricultural activities on the eastern side of the lake, uncontrolled discharge of sewage which is causing localised eutrophication of the lake, and housing and boating development, which is causing the loss of native lakeshore vegetation. The raised bog habitats are susceptible to further degradation and drying out due to drainage and peat cutting and, on occasions, burning. Peat cutting threatens Addergoole Bog and already a substantial area of it has been cut away. Fishing and shooting occur in and around the lake. Introduction of exotic crayfish species or the crayfish fungal plague (*Aphanomyces astaci*) could have a serious impact on the native crayfish population. The bat roost is susceptible to disturbance or development. Despite these ongoing issues, however, Lough Corrib is one the best examples of a large lacustrine catchment system in Ireland, with a range of habitats and species still well represented. These include 15 habitats which are listed on Annex I of the E.U. Habitats Directive, six of which are priority habitats, and nine species which are listed on Annex II. The lake is also internationally important for birds and is designated as a Special Protection Area. part of the Inner Galway Bay SPA is a Wildfowl Sanctuary."*

#### 4.3.4 Lough Corrib SPA (004042)

The following descriptions of the *Lough Corrib SPA* have been extracted from the NPWS Site Synopsis data (NPWS, 2014):

*"Lough Corrib is the largest lake in the country and is located, for the most part, in County Galway, with a small section in the north extending into County Mayo. The main outflowing river is the Corrib, which reaches the sea at Galway City. The shallow, lime-rich waters of the southern basin of the lake support one of the most extensive beds of Stoneworts (Charophytes) in Ireland. These Chara beds are a very important source of food for waterfowl. In contrast, the northern basin contains more oligotrophic and acidic waters. Large areas of reedswamp vegetation, dominated by varying mixtures of Common Reed (*Phragmites australis*) and Common Club-rush (*Scirpus lacustris*) occur around the margins of the lake. The lake has numerous islands, which range from relatively bare rocky islets to larger islands with grassland or woodland. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for several species. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetlands & Waterbirds."*

#### 4.3.5 Qualifying Interests and Conservation Objectives

The QIs/SCIs and their respective conservation objectives for each of the relevant European site(s) are detailed in Table 5 below and Figure 7.

**TABLE 5. QUALIFYING INTERESTS (QIs) / SPECIAL CONSERVATION INTERESTS (SCIs) AND THEIR CONSERVATION OBJECTIVES FOR THE RELEVANT EUROPEAN SITES. THE CONSERVATION STATUS OF EACH QI / SCI WAS SOURCED FROM THE RELEVANT STANDARD DATA FORM(S) (SOURCE: EEA (2023)).**

| QI / SCI (* = priority habitat)                                                                                                           | Conservation Status | Conservation Objective                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------|
| <b>Galway Bay Complex SAC (000268)</b>                                                                                                    |                     |                                                                                                       |
| Mudflats and sandflats not covered by seawater at low tide [1140]                                                                         | Good                | To <u>maintain</u> the favourable conservation condition of these habitats in Galway Bay Complex SAC. |
| Coastal lagoons [1150]                                                                                                                    | Good                | To <u>restore</u> the favourable conservation condition of these habitats in Galway Bay Complex SAC.  |
| Large shallow inlets and bays [1160]                                                                                                      | Excellent           | To <u>maintain</u> the favourable conservation condition of these habitats in Galway Bay Complex SAC. |
| Reefs [1170]                                                                                                                              | Good                |                                                                                                       |
| Perennial vegetation of stony banks [1220]                                                                                                | Good                |                                                                                                       |
| Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]                                                                             | Good                |                                                                                                       |
| <i>Salicornia</i> and other annuals colonising mud and sand [1310]                                                                        | Good                |                                                                                                       |
| Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> ) [1330]                                                                 | Good                | To <u>restore</u> the favourable conservation condition of these habitats in Galway Bay Complex SAC.  |
| Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410]                                                                          | Good                |                                                                                                       |
| Turloughs [3180]                                                                                                                          | Good                | To <u>maintain</u> the favourable conservation condition of these habitats in Galway Bay Complex SAC. |
| <i>Juniperus communis</i> formations on heaths or calcareous grasslands [5130]                                                            | Average or reduced  | To <u>restore</u> the favourable conservation condition of these habitats in Galway Bay Complex SAC.  |
| Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites) [6210] | Good                | To <u>maintain</u> the favourable conservation condition of these habitats in Galway Bay Complex SAC. |

| QI / SCI (* = priority habitat)                                                                    | Conservation Status | Conservation Objective                                                                              |
|----------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------|
| Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> [7210] | Average or reduced  |                                                                                                     |
| Alkaline fens [7230]                                                                               | Average or reduced  |                                                                                                     |
| Limestone pavements [8240]                                                                         | Good                |                                                                                                     |
| <i>Lutra lutra</i> (Otter) [1355]                                                                  | Excellent           | To <u>restore</u> the favourable conservation condition of this species in Galway Bay Complex SAC.  |
| <i>Phoca vitulina</i> (Harbour Seal) [1365]                                                        | Excellent           | To <u>maintain</u> the favourable conservation condition of this species in Galway Bay Complex SAC. |
| <b>Inner Galway Bay SPA (004031)</b>                                                               |                     |                                                                                                     |
| Black-throated Diver ( <i>Gavia arctica</i> ) [A002]                                               | Excellent           | To <u>maintain</u> the favourable conservation condition of this species in Inner Galway Bay SPA.   |
| Great Northern Diver ( <i>Gavia immer</i> ) [A003]                                                 | Excellent           |                                                                                                     |
| Cormorant ( <i>Phalacrocorax carbo</i> ) [A017]                                                    | Excellent           |                                                                                                     |
| Grey Heron ( <i>Ardea cinerea</i> ) [A028]                                                         | N/A                 |                                                                                                     |
| Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ) [A046]                                  | Excellent           |                                                                                                     |
| Wigeon ( <i>Anas penelope</i> ) [A050]                                                             | Good                |                                                                                                     |
| Teal ( <i>Anas crecca</i> ) [A052]                                                                 | Good                |                                                                                                     |
| Red-breasted Merganser ( <i>Mergus serrator</i> ) [A069]                                           | Excellent           |                                                                                                     |
| Ringed Plover ( <i>Charadrius hiaticula</i> ) [A137]                                               | Excellent           |                                                                                                     |

| QI / SCI (* = priority habitat)                                                                                                                   | Conservation Status | Conservation Objective                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------------------------------|
| Golden Plover ( <i>Pluvialis apricaria</i> ) [A140]                                                                                               | Good                |                                                                                                   |
| Lapwing ( <i>Vanellus vanellus</i> ) [A142]                                                                                                       | Excellent           |                                                                                                   |
| Dunlin ( <i>Calidris alpina</i> ) [A149]                                                                                                          | Excellent           |                                                                                                   |
| Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157]                                                                                              | Excellent           |                                                                                                   |
| Curlew ( <i>Numenius arquata</i> ) [A160]                                                                                                         | Excellent           |                                                                                                   |
| Redshank ( <i>Tringa totanus</i> ) [A162]                                                                                                         | Excellent           |                                                                                                   |
| Turnstone ( <i>Arenaria interpres</i> ) [A169]                                                                                                    | Excellent           |                                                                                                   |
| Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ) [A179]                                                                                    | Excellent           |                                                                                                   |
| Common Gull ( <i>Larus canus</i> ) [A182]                                                                                                         | Excellent           |                                                                                                   |
| Sandwich Tern ( <i>Sterna sandvicensis</i> ) [A191]                                                                                               | Excellent           |                                                                                                   |
| Common Tern ( <i>Sterna hirundo</i> ) [A193]                                                                                                      | Good                |                                                                                                   |
| Wetland and Waterbirds [A999]                                                                                                                     | N/A                 | To <u>maintain</u> the favourable conservation condition of this habitat in Inner Galway Bay SPA. |
| <b>Lough Corrib SAC (000297)</b>                                                                                                                  |                     |                                                                                                   |
| Oligotrophic waters containing very few minerals of sandy plains ( <i>Littorelletalia uniflorae</i> ) [3110]                                      | Average or reduced  | To <u>restore</u> the favourable conservation condition of this habitat in Lough Corrib SAC       |
| Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoeto-Nanojuncetea</i> [3130] | Average or reduced  |                                                                                                   |

| QI / SCI (* = priority habitat)                                                                                                           | Conservation Status | Conservation Objective                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------------|
| Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. [3140]                                                         | Excellent           | To <u>maintain</u> the favourable conservation condition of this habitat in Lough Corrib SAC |
| Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260]       | Good                |                                                                                              |
| Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites) [6210] | Good                |                                                                                              |
| <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinion caeruleae</i> ) [6410]                               | Good                |                                                                                              |
| Active raised bogs [7110]                                                                                                                 | Good                | To <u>restore</u> the favourable conservation condition of this habitat in Lough Corrib SAC  |
| Degraded raised bogs still capable of natural regeneration [7120]                                                                         | Average or reduced  |                                                                                              |
| Depressions on peat substrates of the <i>Rhynchosporion</i> [7150]                                                                        | Average or reduced  |                                                                                              |
| Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> [7210]                                        | Good                | To <u>maintain</u> the favourable conservation condition of this habitat in Lough Corrib SAC |
| Petrifying springs with tufa formation ( <i>Cratoneurion</i> ) [7220]                                                                     | Good                |                                                                                              |
| Alkaline fens [7230]                                                                                                                      | Good                |                                                                                              |
| Limestone pavements [8240]                                                                                                                | Good                |                                                                                              |
| Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]                                                    | Good                |                                                                                              |
| Bog woodland [91D0]                                                                                                                       | Excellent           |                                                                                              |
| Freshwater pearl mussel ( <i>Margaritifera margaritifera</i> ) [1029], Annex II and V                                                     | Excellent           | To <u>restore</u> the favourable conservation condition of this species in Lough Corrib SAC  |

| QI / SCI (* = priority habitat)                                   | Conservation Status             | Conservation Objective                                                                        |
|-------------------------------------------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------|
| protected species of the EU Habitats Directive                    |                                 |                                                                                               |
| White-clawed crayfish ( <i>Austropotamobius pallipes</i> ) [1092] | Excellent                       | To <u>maintain</u> the favourable conservation condition of this species in Lough Corrib SAC  |
| Sea lamprey ( <i>Petromyzon marinus</i> ) [1095]                  | Good                            | To <u>restore</u> the favourable conservation condition of this species in Lough Corrib SAC   |
| Brook lamprey ( <i>Lampetra planeri</i> ) [1096]                  | Excellent                       | To <u>maintain</u> the favourable conservation condition of this species in Lough Corrib SAC  |
| Salmon ( <i>Salmo salar</i> ) [1106]                              | Excellent                       |                                                                                               |
| Lesser horseshoe bat ( <i>Rhinolophus hipposideros</i> ) [1303]   | Good                            | To <u>restore</u> the favourable conservation condition of this species in Lough Corrib SAC   |
| Otter ( <i>Lutra lutra</i> ) [1355]                               | Excellent                       | To <u>maintain</u> the favourable conservation condition of this species in Lough Corrib SAC  |
| Slender Naiad ( <i>Najas flexilis</i> ) [1833]                    | Excellent                       |                                                                                               |
| Slender green feather moss ( <i>Hamatocaulis vernicosus</i> )     | Excellent                       |                                                                                               |
| Lough Corrib SPA (004042)                                         |                                 |                                                                                               |
| Pochard ( <i>Aythya ferina</i> ) [A059]                           | Excellent                       | To <u>maintain</u> the favourable conservation condition of this species in Lough Corrib SPA. |
| Tufted Duck ( <i>Aythya fuligula</i> ) [A061]                     | Excellent                       |                                                                                               |
| Common Scoter ( <i>Melanitta nigra</i> ) [A065]                   | Excellent                       |                                                                                               |
| Hen Harrier ( <i>Circus cyaneus</i> ) [A082]                      | Good                            |                                                                                               |
| Coot ( <i>Fulica atra</i> ) [A125]                                | Excellent                       |                                                                                               |
| Golden Plover ( <i>Pluvialis apricaria</i> ) [A140]               | Average or reduced conservation |                                                                                               |

| QI / SCI (* = priority habitat)                                              | Conservation Status             | Conservation Objective |
|------------------------------------------------------------------------------|---------------------------------|------------------------|
| Black-headed Gull<br>( <i>Chroicocephalus ridibundus</i> )<br>[A179]         | Excellent                       |                        |
| Common Gull ( <i>Larus canus</i> )<br>[A182]                                 | Good                            |                        |
| Common Tern ( <i>Sterna hirundo</i> ) [A193]                                 | Good                            |                        |
| Arctic Tern ( <i>Sterna paradisaea</i> ) [A194]                              | Good                            |                        |
| Greenland White-fronted Goose ( <i>Anser albifrons flavirostris</i> ) [A395] | Average or reduced conservation |                        |
| Shoveler ( <i>Spatula clypeata</i> )<br>[A857]                               | Unassigned                      |                        |
| Gadwall ( <i>Mareca strepera</i> )<br>[A889]                                 | Excellent                       |                        |
| Wetland and Waterbirds<br>[A999]                                             | Unassigned                      |                        |

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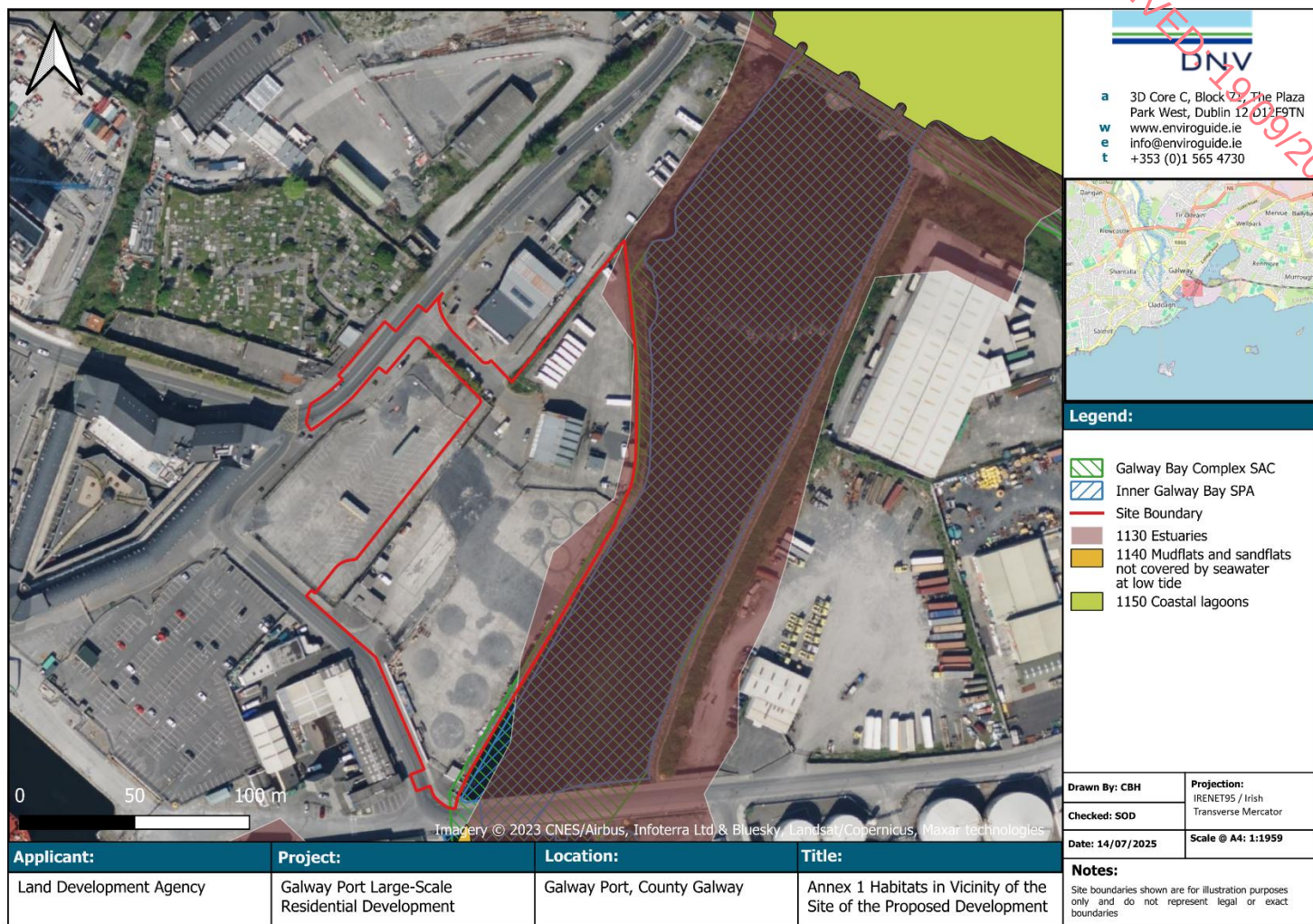


**FIGURE 7. ANNEX 1 HABITATS IN VICINITY OF THE PROPOSED DEVELOPMENT (QGIS, 2025).**

### 4.3.6 Existing Recorded Threats to the Relevant European sites

The following information has been extracted from the Natura 2000 Site viewer<sup>5</sup> - site landing page for each of the European Sites relevant to this report.

#### 4.3.6.1 Galway Bay Complex SAC (000268)

Threats to interest features found within the Galway Bay Complex SAC having been generically identified in NPWS Article 12 (habitats and Species) and 17 (Birds) reporting, have been further developed within the respective Galway Bay SAC (000268) and are outlined in the Natura 2000 online viewer. The following high classification threats and pressures to the Galway Bay SAC have been identified: Diffuse pollution to surface waters due to agricultural and forestry activities, diffuse pollution to surface waters due to household sewage and waste waters, industrial ports, sea defence or coast protection works, tidal barrages, and shipping lanes, ports, marine constructions.

The following medium classification threats and pressures to the Galway Bay SAC have been identified: agricultural intensification, hunting, fishing or collecting activities not referred to above, invasive non-native species, marine and freshwater aquaculture, non-intensive cattle grazing, non-intensive sheep grazing, pipelines, reclamation of land from sea, estuary or marsh, removal of beach materials, and sand and gravel extraction.

All other threats and pressures identified were assigned a low-risk classification.

#### 4.3.6.2 Inner Galway Bay SPA (004031)

Threats to interest features found within the Inner Galway Bay SPA having been generically identified in NPWS Article 12 (habitats and Species) and 17 (Birds) reporting, have been further developed within the respective Inner Galway Bay SPA (000268) and are outlined in the Natura 2000 online viewer. The following high classification threats and pressures to the Inner Galway Bay SPA have been identified: Discharges, reclamation of land from sea, estuary or marsh, urbanised areas, human habitation.

The following medium classification threats and pressures to the Galway Bay SPA have been identified: Dykes, embankments, artificial beaches, general, fertilisation, commercial or industrial areas, leisure fishing, marine and freshwater aquaculture, nautical sports, roads & motorways, walking, horse-riding and non-motorised vehicles.

All other threats and pressures identified were assigned a low-risk classification.

#### 4.3.6.3 Lough Corrib SAC (000297)

Threats to interest features found within the Lough Corrib SAC having been generically identified in NPWS Article 12 (habitats and Species) and 17 (Birds) reporting, have been further developed within the respective Lough Corrib SAC (000268) and are outlined in the Natura 2000 online viewer. The following high classification threats and pressures to the Lough Corrib SAC have been identified: agricultural intensification, diffuse pollution to surface waters due to household sewage and waste waters, invasive non-native species, Other human intrusions and disturbances, and mechanical removal of peat.

The following medium classification threats and pressures to Lough Corrib SAC have been identified: abandonment of pastoral systems, lack of grazing, continuous urbanisation, dispersed habitation, fertilisation, forest planting on open ground, Infilling of ditches, dykes, ponds, pools, marshes or pits, other human induced changes in hydraulic conditions, Piers / tourist harbours or recreational piers, removal of hedges and copses of scrub, and roads, paths and railroads.

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<sup>5</sup> [Natura 2000 Viewer](#)

All other threats and pressures identified were assigned a low-risk classification.

#### 4.3.6.4 Lough Corrib SPA (004042)

Threats to interest features found within the Lough Corrib SPA having been generically identified in NPWS Article 12 (habitats and Species) and 17 (Birds) reporting, have been further developed within the respective Lough Corrib SPA (000268) and are outlined in the Natura 2000 online viewer. The following high classification threats and pressures to the Lough Corrib SPA have been identified: Hunting, leisure fishing, urbanised areas and urban habitation.

A single medium classification threats and pressures have been identified for Lough Corrib SPA: namely - Sylviculture forestry. All other threats and pressures have been identified as low.

### 4.4 Impact Prediction

This section follows the S-P-R method as outlined in section 3.5 to identify if and how any of the QIs/SCIs of the relevant European site are linked to the Proposed Development. Once the connections have been identified the potential impacts of the Proposed Development on *Inner Galway Bay SPA*, *Galway Bay Complex SAC* and *Lough Corrib SAC* in light of their QI/SCI species/habitats are assessed.

For the purposes of objectivity and clarity, mitigation measures **are not considered in the impact prediction**. This includes all measures that will act limit or eliminate the potential for significant adverse impacts on the relevant European site.

#### 4.4.1 Potential impacts of the Proposed Development on key Species and Habitats

The following elements of the Proposed Development were identified and assessed for their potential to cause likely significant effects on European sites. Due to the nature of the Proposed Development (permanent development) there is no Decommission Phase associated with it, and as such it is not assessed in this Report. This section was considered and assessed within the AA Screening Report and is included again in this report as it is a relevant consideration for the Appropriate Assessment.

Potential significant effects arising from the **Construction Phase** include:

- Water quality impacts on designated sites arising from contaminated surface water run-off during the Construction/Infill Phase, in particular during flooding events,
- Contamination of waters, and subsequent impacts on QI species, via airborne pollutants such as dust arising from earthworks,
- Disturbance/displacement of QI species (such as otter and seal) due to increased noise and lighting,
- Disturbance/displacement of SCI bird species associated with *Inner Galway Bay SPA* as a result of increased noise and lighting at the Site,
- Indirect disturbance/displacement of SCI bird species associated with Lough Corrib SPA and SAC as a result of increased noise, lighting and water quality impacts at the Site, which could provide ex-situ foraging/commuting habitat for these species,
- Accidental mortality of otter opportunistically using the Site.

Potential significant effects arising from the **Operational Phase** include:

- Disturbance/displacement of SCI bird species associated with *Inner Galway Bay SPA* as a result of increased noise and lighting at the Site,
- Water quality impacts in designated sites arising from increased human activity (surface water),
- Disturbance of otter due to increased lighting,
- Increased collision risk for SCI birds associated with *Inner Galway Bay SPA* and *Lough Corrib SPA* as a result of tall buildings.

The QIs/SCIs for the relevant European sites are shown on Figure 7 and described in Table 6 below. Descriptions are sourced from the relevant Conservation Objectives and supporting documents (NPWS), Standard Data Forms (EEA, 2025) as well as the surveys carried out at the Site.

Table 6 below outlines the identified pathways between the Proposed Development and the relevant QIs/SCIs and assesses whether there are any adverse effects on the integrity of a these, and, ultimately on the integrity of any European site as a result of the Proposed Development. (those identified with potential for impact are highlighted in amber in the table). The assessment outlined below does not consider mitigation measures that will be implemented as part of the Proposed Development, but the nature of mitigation that will be required to eliminate the potential for significant adverse impacts is identified in the table, if any.

**TABLE 6. ASSESSMENT OF THE POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT ON THE QIs AND SCIs OF THE RELEVANT EUROPEAN SITES. THOSE QIs/SCIs FOR WHICH NOTABLE IMPACT PATHWAYS WERE IDENTIFIED HAVE BEEN HIGHLIGHTED IN AMBER. DESCRIPTIONS ARE EXTRACTED FROM THE NPWS.**

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Impact Pathway(s) | Potential impacts                                             | Mitigation Requirement |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------|------------------------|
| <b>Lough Corrib SAC (000297)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |                                                               |                        |
| <b>3110 – Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |                                                               |                        |
| <u>Conservation objective:</u> To restore the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                                                               |                        |
| “The distribution of lake habitat 3110 in Lough Corrib SAC has not been fully surveyed. Krause and King (1994) recorded it in the “western arm proper”. Within Lough Corrib, it is likely to be restricted to this ‘western arm’ (the north-western bay). It may, however, occur elsewhere along the northern or western shoreline of Lough Corrib, in Ballydoo Lough (N. of Corrib) and in small lakes in the Owenriff catchment. Two measures of extent should be used: 1. the area of the lake itself; 2. the extent of the vegetation communities/zones that typify the habitat. Further information on this and all other attributes is provided in the lake habitats supporting document for the purposes of site-specific conservation objectives and Article 17 reporting (O Connor, 2015).” | <u>None</u>       | This habitat is located upstream of the Proposed Development. | None                   |
| <b>3130 – Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and / or <i>Isoeto-Nanojuncetea</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                                                               |                        |
| <u>Conservation Objective:</u> To restore the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                                                               |                        |
| “The full distribution and characteristics of lake habitat 3130 in Lough Corrib SAC have not been mapped. While the characteristic species slender naiad ( <i>Najas flexilis</i> ) was recorded in the western arm of Lough Corrib, that area appears to be dominated by lake habitat 3110, with lake habitat 3130 found towards the northern basin proper. The division between lake habitats 3130 and 3140 may be difficult to determine, and both habitats may occur throughout the lake.                                                                                                                                                                                                                                                                                                         | <u>None</u>       | This habitat is located upstream of the Proposed Development. | None                   |

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| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Impact Pathway(s) | Potential impacts                                             | Mitigation Requirement |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------|------------------------|
| <i>Habitat 3130 is thought likely to dominate Ballycuirke Lake. Two measures of extent should be used: 1. the area of the lake itself; 2. the extent of the vegetation communities/zones that typify the habitat. For additional information see Krause and King (1994). Further information on this and all other attributes is contained in the lake habitats supporting document for the purposes of site-specific conservation objectives and Article 17 reporting (O Connor, 2015) and the Najas flexilis supporting document."</i>                                                      |                   |                                                               |                        |
| <b>3140 – Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.</b><br><b>Conservation Objective:</b> To restore the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                          |                   |                                                               |                        |
| <i>"The hard water lake habitat (3140) is found in Lough Corrib, notably the southern basin. Its exact distribution and area has not been mapped however, and it is likely to also extend along the eastern side of the northern basin. For additional information see Heuff (1984), Mooney and O'Connell (1990), Krause and King (1994) and Roden and Murphy (in prep.). Further information on this and all other attributes is provided in the lake habitats supporting document for the purposes of site-specific conservation objectives and Article 17 reporting (O Connor, 2015)."</i> | <u>None</u>       | This habitat is located upstream of the Proposed Development. | None                   |
| <b>3260 – Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-batrachion</i> vegetation.</b><br><b>Conservation Objective:</b> To maintain the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                       |                   |                                                               |                        |
| <i>"The description of 3260 is broad, from upland bryophyte/macroalgal dominated stretches, to lowland depositing rivers with pondweeds and starworts. Selection of SACs for the habitat used this broad interpretation. Site-specific objectives for the habitat concentrate upon high conservation value sub-types.</i>                                                                                                                                                                                                                                                                     | <u>None</u>       | This habitat is located upstream of the Proposed Development. | None                   |

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| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Impact Pathway(s) | Potential impacts                                                                                                                                          | Mitigation Requirement |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Little is known, however, about the characteristics or sub-types in Lough Corrib SAC. Many of the rivers were included in the SAC for Atlantic salmon ( <i>Salmo salar</i> ). Most of the rivers are in arterial drainage schemes that have altered aquatic plant distribution and species composition. Note: rooted macrophytes should be absent or trace.                                                                                                                                                                                                                                                                                     |                   |                                                                                                                                                            |                        |
| <b>6210 – Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (*important orchid sites)</b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                            |                        |
| “Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) occurs mainly as small areas and in intimate association with other habitats in this SAC including other grassland types, fens and limestone pavements and is therefore difficult to map separately. O'Neill et al. (2013) surveyed and mapped some grassland sites within the SAC in detail and the surveys of limestone pavement sites carried out by Wilson and Fernandez (2013) included associated grassland habitats; however, as all areas of this habitat within the SAC have not been identified, the total area is unknown.” | None              | This terrestrial habitat is not located within or adjacent to the Project Boundary, nor is it directly downstream of the Site of the Proposed Development. | None                   |
| <b>6410 – <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)</b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                   |                   |                                                                                                                                                            |                        |
| “ <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinion caeruleae</i> ) occurs mainly as small areas and in intimate association with other habitats in this SAC such as other grassland types and fens and is therefore difficult to map separately. O'Neill et al. (2013) surveyed and mapped some grassland sites within Lough Corrib SAC. However, the full extent of this habitat in this SAC is currently unknown.”                                                                                                                                                                                        | None              | This terrestrial habitat is not located within or adjacent to the Project Boundary, nor is it directly downstream of the Site of the Proposed Development. | None                   |

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| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Impact Pathway(s) | Potential impacts                                                                                                                                                 | Mitigation Requirement |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>7110 Active raised bogs – includes 7120 – Degraded raised bogs still capable of natural regeneration and 7150 – Depressions on peat substrates of the <i>Rhynchosporion</i></b><br><u>Conservation Objective:</u> To restore the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                                                                                                                                                                   |                        |
| <p>“There are two raised bogs for which Active Raised Bog (ARB) has been selected in Lough Corrib SAC: Addergoole Bog and Lough Tee Bog. The total area of ARB habitat for these two bogs was mapped as 45.2ha. The area of Degraded Raised Bog (DRB) on the High Bog (HB) has been modelled as 72.0ha. See map 4. However, it is estimated that only 24.1ha is potentially restorable to ARB by drain blocking. The total potential ARB on the HB is therefore estimated to be 69.3ha. Eco-hydrological assessments of cutover bog estimate that an additional 9.5ha of peat-forming habitats could be restored. The long-term target for ARB is therefore 78.8ha. See the Lough Corrib SAC conservation objectives supporting document for raised bog habitats for further details on this and the following attributes.”</p> | None              | <p>This terrestrial habitat is not located within or adjacent to the Project Boundary, nor is it directly downstream of the Site of the Proposed Development.</p> | None                   |
| <b>7210 – Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i></b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                                                                                                                                                                   |                        |
| <p>“Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> have not been mapped in detail for Lough Corrib SAC and thus total area of the qualifying habitat is unknown. While the full extent of Annex I fen habitats (both this habitat and Alkaline fens (7230)) within the SAC is currently unknown, their area is extensive and they often occur in association with and transitional to other habitats including <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinia caerulea</i>) (6410), Active raised bogs (7110), Petrifying springs with tufa formation</p>                                                                                                                                                                                      | None              | <p>This terrestrial habitat is not located within or adjacent to the Project Boundary, nor is it directly downstream of the Site of the Proposed Development.</p> | None                   |

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| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Impact Pathway(s) | Potential impacts                                                                                                                                          | Mitigation Requirement |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <i>(Cratoneurion) (7220) and Limestone pavements (8240) (NPWS internal files). The conservation objectives for all these habitats in the SAC should be used in conjunction with each other as appropriate"</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                                                                                                                                                            |                        |
| <b>7220 – Petrifying springs with tufa formation (Cratoneurion)</b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                                                                                                                                                            |                        |
| <i>"Petrifying springs with tufa formation (Cratoneurion) have not been mapped within Lough Corrib SAC and thus the total area of the qualifying habitat in the SAC is unknown. However, the necessary ecological conditions required for this habitat occur around Lough Corrib."</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <u>None</u>       | This habitat is located upstream of the Proposed Development.                                                                                              | None                   |
| <b>7230 – Alkaline fens</b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |                                                                                                                                                            |                        |
| <i>"Alkaline fens have not been mapped in detail for Lough Corrib SAC and thus total area of the qualifying habitat is unknown. While the full extent of Annex I fen habitats (both this habitat and Calcareous fens with Cladium mariscus and species of the Caricion davallianae (7210)) within the SAC is currently unknown, their area is extensive and they often occur in association with and transitional to other habitats including Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) (6410), Active raised bogs (7110), Petrifying springs with tufa formation (Cratoneurion) (7220) and Limestone pavements (8240) (NPWS internal files). The conservation objectives for all these habitats in the</i> | <u>None</u>       | This terrestrial habitat is not located within or adjacent to the Project Boundary, nor is it directly downstream of the Site of the Proposed Development. | None                   |

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| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Impact Pathway(s) | Potential impacts                                                                                                                                                 | Mitigation Requirement |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| SAC should be used in conjunction with each other as appropriate."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |                                                                                                                                                                   |                        |
| <b>8240 – Limestone pavements</b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                                                                                                                                                                   |                        |
| <p>"Limestone pavements often occur in intimate association with other habitats including the Annex I habitats Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>) (6210), Petrifying springs with tufa formation (<i>Cratoneurion</i>) (7220) and Alkaline fens (7230). Therefore, these habitats cannot easily be mapped or considered separately. Conservation objectives for all these habitats should be used in conjunction with each other as appropriate. In Lough Corrib SAC, limestone pavements occur along the southern and eastern margins of Lough Corrib and more extensively in the southern part of the SAC. However, the total area of the Annex I habitat in the SAC is unknown. Wilson and Fernandez (2013) mapped the indicative area in the southern part, including mosaics with other habitats (map 7)."</p> | None              | <p>This terrestrial habitat is not located within or adjacent to the Project Boundary, nor is it directly downstream of the Site of the Proposed Development.</p> | None                   |
| <b>91A0 – Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                                                                                                                                                                   |                        |

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Impact Pathway(s) | Potential impacts                                                                                                                                                 | Mitigation Requirement |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <p><i>"Most of the woodland in Lough Corrib SAC occurs as narrow belts of low woodland around the lake, with occasional larger stands. Old sessile oakwoods are likely to occur as mosaics with other woodland types and the total extent within the SAC is unknown. As part of the National Survey of Native Woodlands (NSNW), Perrin et al. (2008) surveyed a number of sites in the SAC; one (Annaghwood; NSNW site no. 1624), contained this habitat (see map 8). It is important to note that further unsurveyed areas of old oak woodland are likely to be present within the SAC, including at the Hill of Doon and on some of the islands in the lake (NPWS internal files)."</i></p> | None              | <p>This terrestrial habitat is not located within or adjacent to the Project Boundary, nor is it directly downstream of the Site of the Proposed Development.</p> | None                   |
| <b>91D0 – Bog woodland</b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this habitat in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                                                                                                                                                                   |                        |
| <p><i>"Bog woodland occurs on Addergoole Bog in Lough Corrib SAC and is regarded as a component of the Active raised bogs habitat (7110) of that bog. Thus, the conservation objective and supporting document for active raised bog are also relevant to this habitat and common attributes have not been repeated here. The latest survey for bog woodland on Addergoole was carried out by the Raised Bog Monitoring Project (RBMP) in 2012 (Fernandez et al., 2014)."</i></p>                                                                                                                                                                                                             | None              | <p>This terrestrial habitat is not located within or adjacent to the Project Boundary, nor is it directly downstream of the Site of the Proposed Development.</p> | None                   |
| <b>1029 – Freshwater pearl mussel (<i>Margaritifera margaritifera</i>)</b><br><u>Conservation Objective:</u> To restore the favourable conservation condition of this species in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                                                                                                                                                                   |                        |

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| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Impact Pathway(s) | Potential impacts                                                                                                                          | Mitigation Requirement |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <p>"The conservation objective applies to the Owenriff freshwater pearl mussel (<i>Margaritifera margaritifera</i>) population in Lough Corrib SAC, which is of international importance and one of eight Irish populations prioritised for conservation action (Moorkens, 2010; NPWS, 2011). Its distribution is well-documented and full baseline monitoring took place in 2004 (Moorkens, 2004). The species is widespread in the Owenriff catchment, being found in the lower reaches of the Glengawbeg River, from Lough Agraftard to just upstream of the mouth of Lough Corrib in the Owenriff, and also in the Derrygauna tributary (Moorkens, 2004; NPWS, 2010). The Derrygauna River is in Connemara Bog Complex SAC (002034). The target length relates to the part of the distribution within Lough Corrib SAC. The objective is for the species to be sufficiently widespread to maintain itself on a long-term basis as a viable component of the Owenriff system. "</p> | None              | While this is an aquatic species, the known distribution of freshwater pearl mussel in Lough Corrib SAC is over 25km upstream of the Site. | None                   |
| <b>1092 – White-clawed crayfish</b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this species in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                                                                                                                                            |                        |
| <p>"White-clawed crayfish (<i>Austropotamobius pallipes</i>) is recorded from the entire lengths of the four main tributaries of the River Clare. There are post-1996 records from the following tributaries: Abbert, Grange, Dalgan and Sinking Rivers. It is also present in some minor lower order streams within the Clare catchment."</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | None              | While this is an aquatic species, the known distribution of freshwater pearl mussel in Lough Corrib SAC is over 19km upstream of the Site. | None                   |
| <b>1095 – Sea lamprey (<i>Petromyzon marinus</i>)</b><br><u>Conservation Objective:</u> To restore the favourable conservation condition of this species in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                            |                        |

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Impact Pathway(s) | Potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Mitigation Requirement                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>“Sea lamprey (Petromyzon marinus) traditionally congregate and build spawning nests in the River Corrib in Galway city, both up- and downstream of the Salmon Weir Bridge. Their further upstream passage is impeded by the regulating weir immediately upstream. The combination of barriers to passage and low flows can impede further upstream passage in Irish catchments and prevent or reduce penetration and extensive colonisation (Gargan et al., 2011; Rooney et al., 2015). Sea lamprey have been recorded passing through the denil fish passage facility at the regulating weir. However, no quantitative assessment has been made, nor has any annual record been maintained. Sea lamprey have also been observed using their sucker mouths to project themselves up the damp concrete faces of the weir structure at low water levels (J. King, Inland Fisheries Ireland (IFI), pers. comm.).”</i></p> | Hydrological/Air  | <p>As a free roaming aquatic species, this species is likely to use the Corrib River as a commuting route between Lough Corrib and the Atlantic, including the area immediately adjacent to the Proposed Development.</p> <p><b><u>Potential impacts during the Construction Phase:</u></b></p> <p>Deterioration of water quality via surface water.</p> <p>Dispersal of airborne contaminants which directly deposit into the water, reducing water habitat quality.</p> <p><b><u>Potential impacts during the Operational Phase:</u></b></p> <p>Deterioration of water quality via surface water.</p> | <p><b><u>Construction Phase:</u></b></p> <p>Water Quality Protection.</p> <p>Air Quality Protection.</p> <p><b><u>Operational Phase:</u></b></p> <p>Embedded Mitigation (SuDS).</p> |
| <p><b>1096 – Brook lamprey (<i>Lampetra planeri</i>)</b></p> <p><b><u>Conservation Objective:</u></b> To restore the favourable conservation condition of this species in the Lough Corrib SAC.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                     |
| <p><i>“Artificial barriers can block or cause difficulties to brook lampreys’ migration both up- and downstream, thereby possibly limiting species to specific stretches, restricting access to spawning areas and creating genetically isolated populations (Espanhol et al., 2007).”</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Hydrological/Air  | <p>Although this is an exclusively freshwater aquatic species, the proximity of the Site to the Corrib River could potentially cause impacts to any that stray slightly outside the freshwaters. As a precautionary approach, mitigation is required.</p> <p><b><u>Potential impacts during the Construction Phase:</u></b></p> <p>Deterioration of water quality via surface water.</p> <p>Dispersal of airborne contaminants which directly deposit into the water, reducing water habitat quality.</p>                                                                                               | <p><b><u>Construction Phase:</u></b></p> <p>Water Quality Protection.</p> <p>Air Quality Protection.</p> <p><b><u>Operational Phase:</u></b></p> <p>Embedded Mitigation (SuDS).</p> |

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                   | Impact Pathway(s)              | Potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mitigation Requirement                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                | <p><b>Potential impacts during the Operational Phase:</b></p> <p>Deterioration of water quality via surface water.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                       |
| <b>1106 – Salmon (<i>Salmo salar</i>)</b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this species in the Lough Corrib SAC.                                                                                                                                                                                                                                                                        |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                       |
| <p><i>There are no barriers to migration of salmon (<i>Salmo salar</i>) in Lough Corrib SAC. Salmon spawn in the headwaters of Lough Corrib tributaries. There is an artificial canal joining Lough Corrib and Lough Mask where salmon did not have access historically and does not constitute a limit on the distribution of salmon in Lough Corrib SAC."</i></p>                                                                           | <p><u>Hydrological/Air</u></p> | <p>As a free roaming aquatic species, this species is likely to use the Corrib River as a commuting route between Lough Corrib and the Atlantic, including the area immediately adjacent to the Proposed Development.</p> <p><b>Potential impacts during the Construction Phase:</b></p> <p>Deterioration of water quality via surface water.</p> <p>Dispersal of airborne contaminants which directly deposit into the water, reducing water habitat quality.</p> <p><b>Potential impacts during the Operational Phase:</b></p> <p>Deterioration of water quality via surface water.</p> | <p><b>Construction Phase:</b></p> <p>Water Quality Protection.</p> <p>Air Quality Protection.</p> <p><b>Operational Phase:</b></p> <p>Embedded Mitigation (SuDS).</p> |
| <b>1303 – Lesser horseshoe bat (<i>Rhinolophus hipposideros</i>)</b><br><u>Conservation Objective:</u> To restore the favourable conservation condition of this species in the Lough Corrib SAC.                                                                                                                                                                                                                                              |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                       |
| <p><i>"A figure of 100 bats for summer roosts was set as a minimum qualifying standard (MQS) when SACs were being selected for lesser horseshoe bats (<i>Rhinolophus hipposideros</i>). NPWS conduct annual counts at each qualifying roost. Qualified means from the 2006-2012 data have been calculated whereby the year with the highest maximum count and the year with the lowest maximum count were removed and the mean of the</i></p> | <p><u>None</u></p>             | <p>While this is a volant species, all known lesser horseshoe foraging grounds associated with this SAC are over 35km from the Site of the Proposed Development.</p>                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>None</p>                                                                                                                                                           |

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| Description                                                                                                                                                                                                 | Impact Pathway(s)     | Potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Mitigation Requirement                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| remaining years was calculated. This mean, or the MQS (i.e. 100 bats), whichever is higher, is set as the target figure for the roost.”                                                                     |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                 |
| <b>1355 – Otter (<i>Lutra lutra</i>)</b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this species in the Lough Corrib SAC.                                       |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                 |
| “Measure based on standard otter survey technique. Favourable Conservation Status (FCS) target, based on 1980/81 survey findings, is 88% in SACs. Current range is estimated at 93.6% (Reid et al., 2013).” | Hydrological/Air/Land | Otter are highly mobile species, and the Proposed Development is immediately adjacent to mapped areas of otter commuting/foraging habitat.<br><br><b>Potential impacts during the Construction Phase:</b><br>Deterioration of water quality via surface water.<br>Dispersal of airborne contaminants which directly deposit into the water, reducing water habitat quality.<br>Direct mortality of any otters opportunistically using the Site.<br>Disturbance due to increased noise and lighting.<br><br><b>Potential impacts during the Operational Phase:</b><br>Deterioration of water quality via surface water.<br>Disturbance due to increased lighting. | <b>Construction Phase:</b><br>Water Quality Protection.<br>Air Quality Protection.<br>ECoW.<br>Noise Mitigation.<br>Lighting Mitigation.<br><br><b>Operational Phase:</b><br>Embedded Mitigation (SuDS).<br>Lighting Mitigation |
| <b>1393 – Slender green feather-moss (<i>Drepanocladus vernicosus</i>)</b><br><u>Conservation Objective:</u> To maintain the favourable conservation condition of this species in the Lough Corrib SAC.     |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                 |

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Impact Pathway(s) | Potential impacts                                                                                                                               | Mitigation Requirement |
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| “(Please note that <i>Drepanocladus vernicosus</i> was reclassified as <i>Hamatocaulis vernicosus</i> by Hedenäs (1989)). The known population of slender green feather-moss ( <i>Hamatocaulis vernicosus</i> ) in Lough Corrib SAC occurs at NW of Gortachalla Lough in transition mire which is bounded to the west by acid bog. Data from NPWS surveys (NPWS internal files), Campbell (2013) and Campbell et al. (2015).”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | None              | This plant species is known to exist in Lough Corrib; however, all known records are over 15km upstream from the Proposed Development.          | None                   |
| <b>1833 – Slender naiad (<i>Najas flexilis</i>)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |                                                                                                                                                 |                        |
| <u>Conservation Objective:</u> To restore the favourable conservation condition of this species in the Lough Corrib SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                                                                                                                                                 |                        |
| “The slender naiad ( <i>Najas flexilis</i> ) is a fragile, annual plant that grows in clear-water, lowland lakes. It has an unusual global distribution, being widespread in North America but more restricted in Europe and Asia and is rare and declining in many countries. The core of the species’ European range is Ireland and Scotland. The species is considered to occur in 52 lakes in counties Clare, Donegal, Galway, Kerry and Mayo, with most sites found near the coast. It is a glacial relict species that is not colonising new sites, rather it has occupied the same lakes continuously for almost 10,000 years. It is considered to have gone extinct in six lakes”.                                                                                                                                                                                                                                                                                                                                     | None              | This plant species is known to exist in Lough Corrib, however the potential habitat for it is over 18km upstream from the Proposed Development. | None                   |
| <b>Inner Galway Bay SPA (004031)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |                                                                                                                                                 |                        |
| Black-throated Diver ( <i>Gavia arctica</i> ) [A002], Great Northern Diver ( <i>Gavia immer</i> ) [A003], Cormorant ( <i>Phalacrocorax carbo</i> ) [A017], Grey Heron ( <i>Ardea cinerea</i> ) [A028], Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ) [A046], Wigeon ( <i>Anas penelope</i> ) [A050], Teal ( <i>Anas crecca</i> ) [A052], Red-breasted Merganser ( <i>Mergus serrator</i> ) [A069], Ringed Plover ( <i>Charadrius hiaticula</i> ) [A137], Golden Plover ( <i>Pluvialis apricaria</i> ) [A140], Lapwing ( <i>Vanellus vanellus</i> ) [A142], Dunlin ( <i>Calidris alpina</i> ) [A149], Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157], Curlew ( <i>Numenius arquata</i> ) [A160], Redshank ( <i>Tringa totanus</i> ) [A162], Turnstone ( <i>Arenaria interpres</i> ) [A169], Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ) [A179], Common Gull ( <i>Larus canus</i> ) [A182], Sandwich Tern ( <i>Sterna sandvicensis</i> ) [A191] and Common Tern ( <i>Sterna hirundo</i> ) [A193]. |                   |                                                                                                                                                 |                        |
| <u>Conservation objective:</u> To maintain the favourable conservation condition of these species in Inner Galway Bay SPA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |                                                                                                                                                 |                        |

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Impact Pathway(s) | Potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Mitigation Requirement                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>"Inner Galway Bay SPA is a very large, marine-dominated site situated on the west coast of Ireland. The inner bay is protected from exposure to Atlantic swells by the Aran Islands and Black Head. Subsidiary bays and inlets (e.g. Poul-na-clough, Aughinish and Kinvarra Bays) add texture to the patterns of water movement and sediment deposition, which lends variety to the marine habitats and communities. The terraced Carboniferous (Viséan) limestone platform of the Burren sweeps down to the shore and into the sublittoral. The long shoreline is noted for its diversity, and comprises complex mixtures of bedrock shore, shingle beach, sandy beach and fringing salt marshes. Intertidal sand and mud flats occur around much of the shoreline, with the largest areas being found on the sheltered eastern coast between Oranmore Bay and Kinvarra Bay. A number of small islands and rocky islets in the Bay are included within the site."</i></p> | Air/Hydrological  | <p>The Site is directly adjacent to the SPA.</p> <p><b><u>Potential impacts during the Construction Phase:</u></b></p> <p>Deterioration of water quality via surface water.</p> <p>Dispersal of airborne contaminants which directly deposit into the water, reducing water habitat quality.</p> <p>Disturbance due to increased noise and lighting.</p> <p><b><u>Potential impacts during the Operational Phase:</u></b></p> <p>Deterioration of water quality via surface water.</p> <p>Increased collision risk.</p> <p>Disturbance due to increased lighting.</p> | <p><b><u>Construction Phase:</u></b></p> <p>Water Quality Protection.</p> <p>Air Quality Protection.</p> <p>Noise Mitigation.</p> <p>Lighting Mitigation.</p> <p><b><u>Operational Phase:</u></b></p> <p>Embedded Mitigation (SuDS).</p> <p>Lighting Mitigation.</p> <p>Collision Risk Mitigation.</p> |
| <p><b>Wetland and waterbirds [A999]</b></p> <p><u>Conservation Objective:</u> To maintain the favourable conservation condition of these species within Inner Galway Bay SPA.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                        |
| <p><i>"Inner Galway Bay SPA is a very large, marine-dominated site situated on the west coast of Ireland. The inner bay is protected from exposure to Atlantic swells by the Aran Islands and Black Head. Subsidiary bays and inlets (e.g. Poul-na-clough, Aughinish and Kinvarra Bays) add texture to the patterns of water movement and sediment deposition, which lends variety to the marine habitats and communities. The terraced Carboniferous (Viséan) limestone platform of the Burren sweeps down to the shore and into the sublittoral. The long shoreline is noted for its diversity,</i></p>                                                                                                                                                                                                                                                                                                                                                                        | Air/Hydrological  | <p>The Site is directly adjacent to the SPA.</p> <p><b><u>Potential impacts during the Construction Phase:</u></b></p> <p>Deterioration of water quality via surface water.</p> <p>Dispersal of airborne contaminants which directly deposit into the water, reducing water habitat quality.</p> <p>Disturbance due to increased noise and lighting.</p> <p><b><u>Potential impacts during the Operational Phase:</u></b></p> <p>Deterioration of water quality via surface water.</p>                                                                                | <p><b><u>Construction Phase:</u></b></p> <p>Water Quality Protection.</p> <p>Air Quality Protection.</p> <p>Noise Mitigation.</p> <p>Lighting Mitigation.</p> <p><b><u>Operational Phase:</u></b></p> <p>Embedded Mitigation (SuDS).</p>                                                               |

| Description                                                                                                                                                                                                                                                                                                                                                                   | Impact Pathway(s)   | Potential impacts                                                                                                                                                                                                                                                                                                                                                   | Mitigation Requirement                                                                                                                |
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| <i>and comprises complex mixtures of bedrock shore, shingle beach, sandy beach and fringing salt marshes. Intertidal sand and mud flats occur around much of the shoreline, with the largest areas being found on the sheltered eastern coast between Oranmore Bay and Kinvarra Bay. A number of small islands and rocky islets in the Bay are included within the site."</i> |                     | Increased collision risk.<br>Disturbance due to increased lighting.                                                                                                                                                                                                                                                                                                 | Lighting Mitigation.<br>Collision Risk Mitigation.                                                                                    |
| <b>Galway Bay Complex SAC (000268)</b>                                                                                                                                                                                                                                                                                                                                        |                     |                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                       |
| <b>1140 Mudflats and sandflats not covered by seawater at low tide.</b>                                                                                                                                                                                                                                                                                                       |                     |                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                       |
| <u>Conservation objective:</u> To maintain the favourable conservation condition of this habitat in Galway Bay Complex SAC.                                                                                                                                                                                                                                                   |                     |                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                       |
| <i>"Habitat area was estimated using OSI data as 744ha."</i>                                                                                                                                                                                                                                                                                                                  | <u>Hydrological</u> | This habitat is directly downstream of the Site of the Proposed Development within the Galway Bay Complex SAC.<br><br><b><u>Potential impacts during the Construction Phase:</u></b><br>Deterioration of water quality via surface water.<br><br><b><u>Potential impacts during the Operational Phase:</u></b><br>Deterioration of water quality via surface water. | <b><u>Construction Phase:</u></b><br>Water Quality Protection.<br><br><b><u>Operational Phase:</u></b><br>Embedded Mitigation (SuDS). |
| <b>1150 Coastal lagoons</b>                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                       |
| <u>Conservation Objective:</u> To restore the favourable conservation condition of this habitat in Galway Bay Complex SAC.                                                                                                                                                                                                                                                    |                     |                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                       |
| <i>"Areas calculated from spatial data derived from Oliver, 2007. Site codes IL037, IL038, IL039, IL046, IL047, IL048, IL049, IL050, IL051, IL052. NB there may be more, as yet unmapped, lagoons within this SAC. See lagoon supporting document for further details."</i>                                                                                                   | <u>Hydrological</u> | This habitat is directly downstream of the Site of the Proposed Development within the Galway Bay Complex SAC.<br><br><b><u>Potential impacts during the Construction Phase:</u></b><br>Deterioration of water quality via surface water.<br><br><b><u>Potential impacts during the Operational Phase:</u></b>                                                      | <b><u>Construction Phase:</u></b><br>Water Quality Protection.<br><br><b><u>Operational Phase:</u></b><br>Embedded Mitigation (SuDS). |

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| Description                                                                                                                                                                                | Impact Pathway(s) | Potential impacts                                                                                                                                                                                                                                                                                                                                                            | Mitigation Requirement                                                                                                                |
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|                                                                                                                                                                                            |                   | Deterioration of water quality via surface water.                                                                                                                                                                                                                                                                                                                            |                                                                                                                                       |
| <b>1160 Large shallow inlets and bays</b><br><u>Conservation objective:</u> To maintain the favourable conservation condition of this habitat in Galway Bay Complex SAC.                   |                   |                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                       |
| <i>"Habitat area was estimated as 10,825ha using OSI data and the Transitional Water Body area as defined under the Water Framework Directive."</i>                                        | Hydrological      | This habitat is directly downstream (<2.5km) of the Site of the Proposed Development within the Galway Bay Complex SAC.<br><br><b><u>Potential impacts during the Construction Phase:</u></b><br>Deterioration of water quality via surface water.<br><br><b><u>Potential impacts during the Operational Phase:</u></b><br>Deterioration of water quality via surface water. | <b><u>Construction Phase:</u></b><br>Water Quality Protection.<br><br><b><u>Operational Phase:</u></b><br>Embedded Mitigation (SuDS). |
| <b>1170 Reefs</b><br><u>Conservation objective:</u> To maintain the favourable conservation condition of this habitat in Galway Bay Complex SAC.                                           |                   |                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                       |
| <i>"Based on information from 2009 and 2010 intertidal survey data and 2009 subtidal survey data (Aquafact, 2010a, b; RPS, 2012). See marine supporting document for further details."</i> | Hydrological      | This habitat is directly downstream of the Site of the Proposed Development within the Galway Bay Complex SAC.<br><br><b><u>Potential impacts during the Construction Phase:</u></b><br>Deterioration of water quality via surface water.<br><br><b><u>Potential impacts during the Operational Phase:</u></b><br>Deterioration of water quality via surface water.          | <b><u>Construction Phase:</u></b><br>Water Quality Protection.<br><br><b><u>Operational Phase:</u></b><br>Embedded Mitigation (SuDS). |
| <b>1220 Perennial vegetation of stony banks</b><br><u>Conservation objective:</u> To maintain the favourable conservation condition of this habitat in Galway Bay Complex SAC.             |                   |                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                       |

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Impact Pathway(s) | Potential impacts                                                                                                                                                                                                                                                                                                                                                    | Mitigation Requirement                                                                                                                 |
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| <p>"Current area unknown. It was recorded from Rinville Point, Tawin Point and coastline from Blackhead to Carrickada during the National Shingle Beach Survey (Moore and Wilson, 1999), but the extent was not mapped. Two areas of vegetated shingle were recorded during the Coastal Monitoring Project (Ryle et al., 2009): Bishopsquarter - 0.18ha and Barna (Whitestrand) - 0.45ha. NB further unsurveyed areas maybe present within the site. See coastal habitats supporting document for further details."</p> | Hydrological      | <p>This habitat is directly downstream of the Site of the Proposed Development within the Galway Bay Complex SAC.</p> <p><b>Potential impacts during the Construction Phase:</b></p> <p>Deterioration of water quality via surface water.</p> <p><b>Potential impacts during the Operational Phase:</b></p> <p>Deterioration of water quality via surface water.</p> | <p><b>Construction Phase:</b></p> <p>Water Quality Protection.</p> <p><b>Operational Phase:</b></p> <p>Embedded Mitigation (SuDS).</p> |
| <p><b>1310 Salicornia and other annuals colonising mud and sand.</b><br/> <b>Conservation objective:</b> To maintain the favourable conservation condition of this habitat in Galway Bay Complex SAC.</p>                                                                                                                                                                                                                                                                                                               |                   |                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                        |
| <p>"Based on data from Saltmarsh Monitoring Project (SMP) (McCorry and Ryle, 2009). Habitat recorded at eight of the ten sub-sites surveyed and mapped, giving a total estimated area of 1.347ha. N.B. Further unsurveyed areas may be present within this site. See coastal habitats supporting document for further details."</p>                                                                                                                                                                                     | Hydrological      | <p>This habitat is directly downstream of the Site of the Proposed Development within the Galway Bay Complex SAC.</p> <p><b>Potential impacts during the Construction Phase:</b></p> <p>Deterioration of water quality via surface water.</p> <p><b>Potential impacts during the Operational Phase:</b></p> <p>Deterioration of water quality via surface water.</p> | <p><b>Construction Phase:</b></p> <p>Water Quality Protection.</p> <p><b>Operational Phase:</b></p> <p>Embedded Mitigation (SuDS).</p> |
| <p><b>1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)</b><br/> <b>Conservation objective:</b> To restore the favourable conservation condition of this habitat in Galway Bay Complex SAC.</p>                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                        |
| <p>"Based on data from Saltmarsh monitoring Project (SMP) (McCorry, 2007; McCorry and Ryle, 2009). Ten sub-sites that supported Atlantic salt meadow were mapped (114.612ha) and additional areas of potential saltmarsh (149.18ha) were identified by an examination of aerial photographs, giving a total estimated area of 263.80ha. NB further unsurveyed</p>                                                                                                                                                       | Hydrological      | <p>This habitat is directly downstream of the Site of the Proposed Development within the Galway Bay Complex SAC.</p> <p><b>Potential impacts during the Construction Phase:</b></p> <p>Deterioration of water quality via surface water.</p>                                                                                                                        | <p><b>Construction Phase:</b></p> <p>Water Quality Protection.</p> <p><b>Operational Phase:</b></p> <p>Embedded Mitigation (SuDS).</p> |

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Impact Pathway(s) | Potential impacts                                                                                                                                                                                                                                                                                                                                                    | Mitigation Requirement                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| areas maybe present within the site. See coastal habitats supporting document for further details.”                                                                                                                                                                                                                                                                                                                                                                          |                   | <p><b>Potential impacts during the Operational Phase:</b></p> <p>Deterioration of water quality via surface water.</p>                                                                                                                                                                                                                                               |                                                                                                                                        |
| <b>1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</b><br><u>Conservation objective:</u> To restore the favourable conservation condition of this habitat in Galway Bay Complex SAC.                                                                                                                                                                                                                                                                            |                   |                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                        |
| <p>“Based on data from the Saltmarsh Monitoring Project (SMP) (McCorry, 2007; McCorry and Ryle, 2009). Six sub-sites that support Mediterranean salt meadow were mapped (11.472ha) and additional areas of potential saltmarsh (8.415ha) were identified from an examination of aerial photographs, giving a total estimated area of 19.887ha. NB further unsurveyed areas maybe present within the site. See coastal habitats supporting document for further details.”</p> | Hydrological      | <p>This habitat is directly downstream of the Site of the Proposed Development within the Galway Bay Complex SAC.</p> <p><b>Potential impacts during the Construction Phase:</b></p> <p>Deterioration of water quality via surface water.</p> <p><b>Potential impacts during the Operational Phase:</b></p> <p>Deterioration of water quality via surface water.</p> | <p><b>Construction Phase:</b></p> <p>Water Quality Protection.</p> <p><b>Operational Phase:</b></p> <p>Embedded Mitigation (SuDS).</p> |
| <b>3180 Turloughs</b><br><u>Conservation objective:</u> To maintain the favourable conservation condition of this habitat in Galway Bay Complex SAC.                                                                                                                                                                                                                                                                                                                         |                   |                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                        |
| <p>“Based on measured area of four known turloughs. NB there may be more, as yet unmapped, turloughs within this SAC. See turloughs supporting document for further details.”</p>                                                                                                                                                                                                                                                                                            | None              | <p>This terrestrial habitat is not in the vicinity or downstream of the Proposed Development.</p>                                                                                                                                                                                                                                                                    | None                                                                                                                                   |
| <b>5130 Juniperus communis formations on heaths or calcareous grasslands</b><br><u>Conservation objective:</u> To restore the favourable conservation condition of this habitat in Galway Bay Complex SAC.                                                                                                                                                                                                                                                                   |                   |                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                        |

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Impact Pathway(s) | Potential impacts                                                                          | Mitigation Requirement |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------|------------------------|
| "Minimum area from one mapped location. Based on site visit in March 2013. Appropriate management might encourage expansion of the area. NB further unsurveyed areas maybe present within the SAC."                                                                                                                                                                                                                                                                        | <u>None</u>       | This terrestrial habitat is not in the vicinity or downstream of the Proposed Development. | None                   |
| <b>6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>) (*important orchid sites)</b><br><u>Conservation objective:</u> To maintain the favourable conservation condition of this habitat in Galway Bay Complex SAC.                                                                                                                                                                                                 |                   |                                                                                            |                        |
| "Extent of this habitat in the SAC is currently unknown. Areas are likely to be small and often in mosaic with other habitats such as limestone pavement and scrub (Dwyer et al., 2007; internal NPWS files). Dwyer et al. (2007) surveyed a number of sub-sites in 2006. The Irish semi-natural grasslands survey undertook survey work in Counties Clare and Galway in 2012, and additional information is likely to be available for this SAC following data analysis." | <u>None</u>       | This terrestrial habitat is not in the vicinity or downstream of the Proposed Development. | None                   |
| <b>7210 Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i></b><br><u>Conservation objective:</u> To maintain the favourable conservation condition of this habitat in Galway Bay Complex SAC.                                                                                                                                                                                                                                     |                   |                                                                                            |                        |
| "The full extent of this habitat within the SAC is currently unknown. Fen vegetation occurs in wetland areas to the east of Oranmore (Internal NPWS files). It has also been recorded in Ballindereen Lough (see turloughs supporting document for further details). This habitat is found in mosaic with other habitats including the Annex I habitat: Alkaline fens (7230) (Internal NPWS Files). NB further areas of fen are likely to occur within the SAC."           | <u>None</u>       | This terrestrial habitat is not in the vicinity or downstream of the Proposed Development. | None                   |
| <b>7230 Alkaline fens</b><br><u>Conservation objective:</u> To maintain the favourable conservation condition of this habitat in Galway Bay Complex SAC.                                                                                                                                                                                                                                                                                                                   |                   |                                                                                            |                        |

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| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Impact Pathway(s)     | Potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Mitigation Requirement                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>"The full extent of this habitat within the SAC is currently unknown. Fen vegetation occurs in wetland areas to the east of Oranmore (Internal NPWS files). It has also been recorded in Ballindereen Lough (see turloughs supporting document for further details). This habitat is found in mosaic with other habitats including the Annex I habitat: Calcareous fens with Cladium mariscus and species of the Caricion davallianae (7210). NB further areas of fen are likely to occur within the SAC."</i></p> | None                  | This terrestrial habitat is not in the vicinity or downstream of the Proposed Development.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | None                                                                                                                                                                                                                                                                             |
| <p><b>1355 Otter <i>Lutra lutra</i></b><br/> <u>Conservation objective:</u> To maintain the favourable conservation condition of this species in Galway Bay Complex SAC.</p>                                                                                                                                                                                                                                                                                                                                             |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                  |
| <p><i>"Measure based on standard otter survey technique. FCS target, based on 1980/81 survey findings, is 88% in SACs. Current range in the west is estimated at 70% (Bailey and Rochford, 2006)."</i></p>                                                                                                                                                                                                                                                                                                               | Hydrological/Air/Land | <p>Otter are highly mobile species, and the Proposed Development is immediately adjacent to mapped areas of otter commuting/foraging habitat.</p> <p><b>Potential impacts during the Construction Phase:</b></p> <p>Deterioration of water quality via surface water.</p> <p>Dispersal of airborne contaminants which directly deposit into the water, reducing water habitat quality.</p> <p>Direct mortality of any otters opportunistically using the Site.</p> <p>Disturbance due to increased noise and lighting.</p> <p><b>Potential impacts during the Operational Phase:</b></p> <p>Deterioration of water quality via surface water.</p> <p>Disturbance due to increased lighting.</p> | <p><b><u>Construction Phase:</u></b></p> <p>Water Quality Protection.</p> <p>Air Quality Protection.</p> <p>ECoW.</p> <p>Noise Mitigation.</p> <p>Lighting Mitigation.</p> <p><b><u>Operational Phase:</u></b></p> <p>Embedded Mitigation (SuDS).</p> <p>Lighting Mitigation</p> |

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| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Impact Pathway(s)       | Potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                           | Mitigation Requirement                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1365 Harbour seal <i>Phoca vitulina</i></b><br><u>Conservation objective:</u> To maintain the favourable conservation condition of this species in Galway Bay Complex SAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                         |
| <p>"This marine mammal species occurs in estuarine, coastal and offshore waters but also utilises a range of intertidal and terrestrial habitats for important life history functions such as breeding, moulting, resting and social activity. Its aquatic range for foraging and inter-site movement extends into continental shelf waters. When hauling out ashore, harbour seals tend to prefer comparatively sheltered locations where exposure to wind, wave action and precipitation, for example, are minimised. Thus, in Ireland the species is more commonly found ashore in sheltered bays, inlets and enclosed estuaries."</p>                                                                                                                                                                      | <p>Hydrological/Air</p> | <p>Harbour seal occupy the waters surrounding the Proposed Development.</p> <p><b>Potential impacts during the Construction Phase:</b></p> <p>Deterioration of water quality via surface water.</p> <p>Dispersal of airborne contaminants which directly deposit into the water, reducing water habitat quality.</p> <p><b>Potential impacts during the Operational Phase:</b></p> <p>Deterioration of water quality via surface water.</p> | <p><b>Construction Phase:</b></p> <p>Water Quality Protection.</p> <p>Air Quality Protection.</p> <p><b>Operational Phase:</b></p> <p>Embedded Mitigation (SuDS).</p>                   |
| <b>Lough Corrib SPA (004042)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                         |
| <p>Pochard (<i>Aythya ferina</i>) [A059], Tufted Duck (<i>Aythya fuligula</i>) [A061], Common Scoter (<i>Melanitta nigra</i>) [A065], Hen Harrier (<i>Circus cyaneus</i>) [A082], Coot (<i>Fulica atra</i>) [A125], Golden Plover (<i>Pluvialis apricaria</i>) [A140], Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179], Common Gull (<i>Larus canus</i>) [A182], Common Tern (<i>Sterna hirundo</i>) [A193], Arctic Tern (<i>Sterna paradisaea</i>) [A194], Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395], Shoveler (<i>Spatula clypeata</i>) [A857], Gadwall (<i>Mareca strepera</i>) [A889], Wetland and Waterbirds [A999]</p> <p><u>Conservation objective:</u> To maintain the favourable conservation condition of these species in Inner Lough Corrib SPA.</p> |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                         |
| <p>"Lough Corrib is the largest lake in the country and is located, for the most part, in County Galway, with a small section in the north extending into County Mayo. The main outflowing river is the Corrib, which reaches the sea at Galway City. The shallow, lime-rich waters of the southern basin of the lake support one of the most extensive beds of Stoneworts (Charophytes) in Ireland. These Chara beds are a very important source of food for waterfowl. The lake has numerous islands,</p>                                                                                                                                                                                                                                                                                                    | <p>Air/Hydrological</p> | <p>The Site is 4km southeast of the SPA.</p> <p><b>Potential impacts on ex-situ habitat during the Construction Phase:</b></p> <p>Deterioration of water quality via surface water</p> <p>Dispersal of airborne contaminants which directly deposit into the water, reducing water habitat quality.</p>                                                                                                                                     | <p><b>Construction Phase:</b></p> <p>Water Quality Protection.</p> <p>Air Quality Protection.</p> <p>Noise Mitigation.</p> <p>Lighting Mitigation.</p> <p><b>Operational Phase:</b></p> |

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Impact Pathway(s) | Potential impacts                                                                                                                                                                                                                                                                       | Mitigation Requirement                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <p><i>which range from relatively bare rocky islets to larger islands with grassland or woodland. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for several species. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetlands &amp; Waterbirds."</i></p> |                   | <p>Disturbance due to increased noise and lighting.</p> <p><b><u>Potential impacts on ex-situ habitat during the Operational Phase:</u></b></p> <p>Deterioration of water quality via surface water.</p> <p>Increased collision risk.</p> <p>Disturbance due to increased lighting.</p> | <p>Embedded Mitigation (SuDS).</p> <p>Lighting Mitigation.</p> <p>Collision Risk Mitigation.</p> |

## 4.4.2 Potential for In-combination Effects

### 4.4.2.1 Existing Planning Permissions

A search of planning applications located within a 500m radius of the Site of the Proposed Development was conducted using online planning resources such as the National Planning Application Database (NPAD) accessed using GIS. Any planning applications listed as granted or decision pending from within the last five years were assessed for their potential to act in-combination with the Proposed Development and cause likely significant effects on the relevant European sites. Long-term developments granted outside of this time period were also considered where applicable.

The larger developments within the vicinity of the Site are listed in Table 7 below.

**TABLE 7. GRANTED AND PENDING DEVELOPMENT APPLICATIONS WITHIN 500 M OF THE PROPOSED DEVELOPMENT. LOCATION AND DISTANCE GIVEN IS RELATIVE TO THE PROPOSED DEVELOPMENT.**

| Planning Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Planning Authority                     | Status    | Location                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------|--------------------------------|
| 2047                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Galway City Council                    | Granted   | Ceannt Station                 |
| <b>Development Description</b><br><i>The proposed development is for a mixed-use urban regeneration project with an overall gross floor area of approximately 114161sq. m.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                        |           |                                |
| <b>Potential for In-combination effects</b><br><p>An NIS was produced for this proposal stating that, in the absence of mitigation, there was the potential for impacts to Galway Bay Complex SAC and Inner Galway Bay SPA. The NIS concludes that “<i>there will be no significant effects due to displacement, collision, habitat loss/disturbance, noise and contamination on the nearby Natura 2000 sites, their relevant qualifying interests or species of conservation interest and conservation objectives nor on the integrity of associated European sites.</i>”</p> <p>Thus, there is <b>no potential for in-combination effects</b> as a result of this proposal being undertaken simultaneously with the Proposed Development.</p>                                                                                                                                                               |                                        |           |                                |
| 314597                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | An Bord Pleanála                       | Granted   | University Road to Dublin Road |
| <b>Development Description</b><br><i>BusConnects Galway Project consisting of alteration of existing road layouts, including junction layouts, footpaths, signalling, pedestrian crossings, drainage and other associated works.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                        |           |                                |
| <b>Potential for In-combination effects</b><br><p>The NIS accompanying this proposal identified hydrological pathways between the proposal and Inner Galway Bay SPA and Galway Bay Complex SAC and subsequently outlines a suite of surface water protection measures to ensure there is no potential for significant effects on these European sites. The NIS concludes, “<i>with the implementation of appropriate mitigation measures specifically with regard to surface water, significant effects on the Lough Corrib or Galway Bay European Sites can be ruled out</i>” and includes a suite of mitigation measures, which, in tandem with the mitigation measures outlined within this NIS Report are deemed sufficient to ensure there is <b>no potential for significant in-combination effects</b> on any European site as a result of these two developments being undertaken simultaneously.</p> |                                        |           |                                |
| 2460108 / ABP-310615-21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Galway City Council / An Bord Pleanála | In Appeal | Lough Atalia Road              |
| <b>Development Description</b><br><p>Permission for development which consists of the demolition of (a) the vacant industrial structure (115 sq m) (b) the external canopy structure (170 sq m) and (c) the boundary walls along the southern, western and north-western boundaries of the site; and the construction of a 15 No. storey Hotel.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                        |           |                                |

| Planning Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Planning Authority | Status      | Location       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------|
| <b>Potential for In-combination effects</b><br><p>The NIS produced for this application identified a hydrological pathway between the site and Galway Bay Complex SAC and Inner Galway Bay SPA, via which runoff of construction-related pollutants could lead to water quality deterioration. A suite of surface water protection and pollution prevention mitigation measures are subsequently outlined within the report, which concludes that there is no potential for significant effects on either European site following the implementation of mitigation, as no water will exit the site carrying pollutants.</p> <p>The above, in tandem with the mitigation measures outlined within this NIS Report are deemed sufficient to ensure there is <b>no potential for significant in-combination effects</b> on any European site as a result of these two developments being undertaken simultaneously.</p> |                    |             |                |
| PA61.PA0033                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | An Bord Pleanála   | In Progress | Galway Harbour |
| <b>Development Description</b><br><p><i>Development of an extension of Galway Harbour at Renmore and Townparks Townlands.</i></p> <b>Potential for In-combination effects</b><br><p>The NIS for this planning application concluded that there would be significant impacts on certain QI habitats/species within the <i>Galway Bay Complex SAC</i>, including intertidal and stony bank habitats, and the application is currently at Stage 4 (IROPI) of the AA procedure.</p> <p>Despite this, it is envisaged that the Proposed Development at Galway Port will not have any significant in-combination impacts (above the baseline produced by this planning application) on any QI habitat/species with the planning application PA61.PA0033.</p>                                                                                                                                                               |                    |             |                |

#### 4.4.2.2 Relevant Policies and Plans

The local policies and plans were reviewed and considered for possible in-combination effects with the Proposed Development. The County Development Plan has directly addressed the protection of European sites through specific policy objectives. These policies ensure that no new development will give rise to significant effects on any European sites, either individually or in-combination with other plans or projects (except in the rare cases where imperative reasons of overriding public interest exist).

Additionally, the Galway City Biodiversity Action Plan is set out to protect and improve biodiversity and thus will not result in negative in-combination effects with the Proposed Development. Therefore, no in-combination effects are expected with the relevant policies and plans.

### 4.5 Avoidance and Mitigation Measures

The following sections outline the avoidance and mitigation measures identified to eliminate the potential for significant adverse impacts on the relevant European sites. Once the recommended measures outlined in the following sections are implemented in full, no adverse impacts on the relevant European sites or their QIs/SCIs are anticipated as a result of the Proposed Development. These mitigation measures will be included in the Construction and Environmental Management Plan (CEMP) for this project (DNV, 2025b).

#### 4.5.1 Avoidance By Design (Embedded Measures)

Embedded measures incorporated as a component of the design of the Proposed Development which will have a secondary effect of preventing significant effects on European sites are described below.

These include the application of standardised international best practice measures as outlined in the accompanying Construction Environment Management Plan (CEMP), and the Sustainable Drainage Systems (SuDS) which are to be included as part of the overall design of the Operational Phase of the proposal. The Operational Phase will also include a Lighting Plan.

#### 4.5.1.1 Building Specifications to Reduce Collision Risk Impact

The following specifications are embedded into the design of the project which serve to further reduce collision risk impact on SCI species which may be using the greater Galway Bay area for commuting/foraging.

##### Building Appearance

Whilst the design of the facades of the buildings do include windows, as shown on the elevation drawings prepared by Altu Architects (2025) for the Proposed Development no large continuous surfaces of glass are proposed. Rather the overall façades of the proposed buildings are well broken up, with a varied material composition interspersing any reflective areas.

These architectural design features provide important visible cues as to the presence and extent of the proposed structures to any commuting/foraging bird species should they be in the vicinity of the Site. This overall visual heterogeneity of the building façades will be sufficient to further ensure that the risk of bird collisions as a result of the Proposed Development is negligible. These architectural design features are part of the overall design of the Proposed Development and are not considered to represent specific mitigation measures to prevent collisions, however, they will contribute to the overall effect in this regard. As a result, it is noted that birds are not deemed to be at any particular risk of collisions with the proposed buildings at the Site.

Accounting for the above, based on the physical appearance of the Proposed structures and the nature of their location, it is deemed that birds including any 'at-risk' species, do not have the potential to be significantly impacted by the Proposed Development in terms of collisions and the risk owing to the building appearance is therefore deemed to be imperceptible in the absence of any mitigation.

##### Building Height

With respect to Special Conservation Interest (SCI) species for SPAs within the zone of influence of the Proposed Development which regularly use or travel over inland areas (i.e. light bellied brent goose, gull species, duck species and a number of waders such as oystercatcher, godwit species or curlew), in Galway they navigate the urban environment with built structures daily.

To put some context on some of their avoidance capabilities, in a different setting and for use in collision risk modelling for onshore wind turbines, an avoidance rate of 99.5% is applied for large gull species and an avoidance rate of 99.2% is applied for small gull species (Furness, 2019), which essentially means that 99.5% and 99.2% of gull flights<sup>6</sup>, respectively, will avoid collision with a moving turbine. For Curlew, the avoidance rate applied is 98% (SNH, 2018).

The risk of collision is even less with a static, clearly detectable building. The proposed buildings consist of glazing, broken up with a varied material composition interspersing any reflective areas. While the presence of the Proposed Development might alter flight patterns of bird species slightly to avoid the proposed building structures the risk of collision is extremely low.

The Proposed Development entails the construction of relatively low-level residential buildings ranging in height from 6-13 storeys in height, and as such, the risk of migrating birds colliding with the structure due to its height is deemed to be imperceptible [Migrating species tend to commute far above this with Swans and Geese flying up to 2500ft (ca.750m) during migration along Irish Coasts (Irish Aviation Authority, 2020).

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<sup>6</sup> Within the collision risk zone

It is considered that birds that fly over the Site to commute between feeding grounds at various locations would fly lower than this, however, once the proposed structures are made of visible materials i.e., not entirely comprised of continuous reflective materials such as glass, the birds would simply fly around or over them.

As such, flightline/collision risk impacts on SCI species of the nearby SPA are not expected to occur.

#### 4.5.1.2 Construction Environmental Management Plan (CEMP)

This section provides measures included in the CEMP which fall under embedded project measures, whilst acknowledging the CEMP itself is not an embedded design measure.

The first of which is the following Construction schedule which will be implemented:

The Proposed Development will be executed in two distinct phases to facilitate a staged occupation. The proposed sequence of construction outlined below is subject to confirmation once the building contract has been awarded and on completion of the Detailed Construction Management Plan for agreement with Galway City Council. The overall duration of the project is anticipated to span approximately 27 months, starting with Blocks A and B, followed by Blocks C and D.

The sequencing of the two phases of the Proposed Development is intended to proceed as follows:

- Phase 1 (approximately 15 months): construction of Blocks A and B (a total number of 186 no. units), road works along Dock Road, new internal street, parking court, upgrade of road adjacent to petrol filling station, toucan crossing and associated footpath, landscaping around public square, courtyard and Lough Atalia Walk; and
- Phase 2 (approximately 12 months): construction of Blocks C and D (170 no. residential units), landscaping and Lough Atalia Walk.

For the duration of the construction phase, working hours shall be between 07:00 – 19:00 Monday to Friday (excluding bank holidays) and between 09:00 – 13:00 on Saturdays, subject to restrictions imposed by the local authority.

As per the accompanying CEMP (DNV, 2025b), several best practice measures will be adopted during construction. Relevant information below has been extracted from the CEMP.

##### Construction Lighting

Where possible, construction work will be confined to daylight hours and lighting will not be required for the Construction Phase, apart from during the winter months when daylight levels are limited. There will also be occasions where the provision of portable lighting will be required (works on roadways and power floating floors as examples). Where possible and without jeopardising site safety lights will be pointed down at a 45-degree angle and away from sensitive receptors. The site compound will have external lights for safety and security. These lights will be pointed down at a 45- degree angle and away from sensitive receptors where possible.

##### Air Quality

To ensure impacts of dust are minimised the following will be implemented:

- Complaint registers will be kept detailing all telephone calls and letters of complaint received in connection with construction activities, together with details of any remedial actions carried out;
- Equipment and vehicles used on site will be in good condition such that emissions from diesel engines etc. are not excessive; and
- Pre-start checks will be carried out on equipment to ensure they are operating efficiently and that emission controls installed as part of the equipment are functional.

Dust will be monitored via the following:

- The dust deposition rate will be measured by positioning Bergerhoff Dust Deposit Gauges at strategic locations near the boundaries of the site for a period of 30 (+/- 2) days if required.

Monitoring should be conducted as required during periods when the highest levels of dust are expected to be generated i.e., during site preparation works and soil stripping activities.

- The exact locations will be determined after consideration of the requirements of Method VDI 2119 with respect to the location of the samplers relative to obstructions, height above ground and sample collection and analysis procedures.
- After each 30 (+/- 2 days) exposure period, the gauges will be removed from the sampling location, sealed and the dust deposits in each gauge will be determined gravimetrically by an accredited laboratory and expressed as a dust deposition rate in mg/m<sup>2</sup> /day in accordance with the relevant standards.
- Technical monitoring reports detailing all measurement results, methodologies and assessment of results shall be subsequently prepared and maintained by the Site Manager.

During excavation, the following will be implemented:

- During dry and windy periods, and when there is a likelihood of dust nuisance, watering shall be conducted to ensure moisture content of materials being moved is high enough to increase the stability of the soil and thus suppress dust,
- During periods of very high winds (gales), activities likely to generate significant dust emissions should be postponed until the gale has subsided.
- The movement of trucks containing materials with a potential for dust generation to an offsite location will be enclosed or covered.

#### Concrete Run-off

No wash-down or wash-out of ready-mix concrete vehicles during the construction works will be carried out at the site within 10 meters of an existing surface water drainage point. Concrete shut Wash-outs will only be allowed to take place in designated areas with an impervious surface. No barrel washouts will be allowed onsite.

#### Chemicals on Site

No bulk chemicals will be stored within the active construction areas. Temporary oil and fuel storage tanks will be kept in the material storage area in suitable containers and will be appropriately banded as required. Refuelling of vehicles and the addition of hydraulic oils or lubricants to vehicles will take place in designated areas of the site, which will be kept away from surface water drains and sensitive locations/habitats e.g., adjacent to the waterfront.

Spill protection equipment such as absorbent mats, socks and sand will be available to be used in the event of an accidental release during refuelling. Training will be given to appropriate site workers in how to manage a spill event.

The following mitigation measures will be taken at the construction site in order to prevent any spillages to ground of fuels during machinery activities and prevent any resulting soil and/or groundwater quality impacts:

- Refuelling will be undertaken off site where possible,
- Where mobile fuel bowsers are used the following measures will be taken:
  - Any flexible pipe, tap or valve will be fitted with a lock and will be secured when not in use;
  - The pump or valve will be fitted with a lock and will be secured when not in use,
  - All bowsers must carry a spill kit,
  - Operatives must have spill response training; and
  - Portable generators or similar fuel containing equipment will be placed on suitable drip trays.

### **4.5.1.3 Surface Water Management**

Surface water discharge rates from the proposed surface water drainage network will be controlled by the below proposed measures, which have the capacity to provide attenuation on the surface water run-off

rates from the Site, thereby reducing run-off rates from surface water on Site during its Operational Phase, and further mitigating the risk of surface water overflow during excessive rainfall/flooding events:

- SuDs measures.
- Interceptors.
- 2 no. Attenuation Tank.

It should also be noted that Surface water at the Proposed Development will discharge into the existing public stormwater network.

## SuDS

The following has been extracted from the Civil Works Design Report in relation to SuDs measures embedded into the design of the proposal (Tobin, 2025):

*“To limit surface water runoff from the site, the surface water drainage for the proposed development will be designed in accordance with the principles of Sustainable Urban Drainage Systems (SuDS) as embodied in the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS). The GDSDS addresses the issue of sustainability by requiring designs to comply with a set of drainage criteria which aim to minimise the impact of urbanisation by replicating the runoff characteristics of the brownfield site.*

*The requirements of SuDS are typically addressed by provision of the following:*

- *Interception storage*
- *Treatment storage (not required if interception storage is provided)*
- *Attenuation storage*
- *Long term storage (if this is not required growth rates should not be applied to Qbar)*

*In the case of the subject site, interception and attenuation storage has been proposed by implementing infiltration tanks with calculated holding volume. Growth factors will not be applied to the allowable discharge for the 100-year event. This means that both treatment storage and long-term storage (neither of which would be practical on this site) are not required.*

*All SuDS measures will be designed with due reference to the recommendation set out in the EPA’s document entitled ‘Guidance on Authorisation of Discharges to Groundwater 2011’.*

*SuDS measures proposed would be a combination of water butts (not reflected on the SuDS layout), rain gardens, swales, tree pits, permeable paving, and drainage kerbs with infiltration trenches/filter strips. These measures would seek to achieve interception storage. Storage capacity has been calculated and provided in discharge soakaways as though no interception storage was provided. Thereby is mitigated any seasonal performance of interception storage measures.*

*SuDS objectives relate to:*

- 1. Water Quality*
- 2. Water Quantity*

3. *Amenity*

4. *Biodiversity*"

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## Foul Water Drainage

It is proposed that the wastewater network will consist of gravity discharge to the existing combined sewer in the direction of the north-west corner of the site. The foul sewer network was designed using Causeway Flow. Foul water during the Operational Phase will be treated prior to discharge into the two European sites via the WwTP on Mutton Island. Mutton Island Wastewater Treatment Plant (WwTP), which is located approximately 1.6 kilometres (km) to the south of the Site in Galway Bay serving the entire catchment area of Galway city and its environs. This design, build and operate (DBO) project saw Uisce Éireann engage Murphy to refurbish the existing plant and deliver an expansion in capacity from a population equivalent 91,600 to 170,000 followed by a 20-year operation and maintenance period. Mutton Island Wastewater Treatment Plant uses anaerobic digestion to renewable energy from organic waste and this project also entailed the installation of new combined heat and power (CHP) units to harness the biogas produced to power the operation of the plant. The original plant was constructed and commissioned by Murphy in 2003 and had been operated and maintained by Murphy since it entered service. As a result, Mutton Island WwTP has capacity (total of 170,000 population equivalent (pe)) available to accommodate the Proposed Development's foul drainage. In addition, the Annual Environmental Report (2024) for this WwTP shows that the plant is currently in compliance with its emission limit values (ELVs). As such foul water impacts can be ruled out and are not discussed further within this Report.

### 4.5.1.4 Lighting Plan

The Lighting Design plan (Axiseng 2025) contains bird-friendly lighting, including the use of LED lighting, columns under 8m in height, and warm lighting (<2700K). Light spill along the eastern boundary (by the water) will be limited to approximately 1 LUX.

## 4.5.2 Construction Phase

### 4.5.2.1 Mitigation 1: Water Quality Protection

The following applies to all stages of the Construction Phase for the Proposed Development unless specific measures have been identified. As it has been identified that the Proposed Development could potentially affect SCI/QI species associated with the nearby European sites during the Construction Phase as a result of water quality impacts, the mitigation measures listed in the following sections will be undertaken.

## Construction Phase mitigation measures to protect identified European sites

The following mitigation measures are proposed to negate any potential risk of contamination of the foreshore and water column of Galway Bay Complex SAC and Inner Galway Bay SPA due to concrete works during the Construction Phase:

- If concrete mixing is carried out on Site, mixing shall be sited in a designated area with an impervious surface.
- Investigate the use of hardeners or products to speed up the concrete cure time – all products shall be suitable for use in coastal intertidal locations.
- Measures shall be taken during all aspects of construction to ensure that no cement or concrete can enter the intertidal area or seawaters. Concrete trucks and implements shall be kept away from the intertidal area or seawaters and no washing out of trucks or implements is permitted. Concrete with a suitable drying time or appropriate protection of working areas, will be used.
- Run off from hard surface areas and concrete mixing areas must not enter the intertidal zone to reduce the potential for contaminants entering the water.

- This will be controlled via the use of physical barriers such as silt traps, berms, or sandbags where appropriate (please refer to the CEMP report for full details).
- Surplus concrete shall be stockpiled away from the construction area and removed offsite for recycling/reuse as appropriate.

In addition, the below best practice measures are proposed.

## Construction Phase Best Practice

The following measures, designed to protect surface water quality, will serve to prevent any adverse effects on the integrity of *Inner Galway Bay SPA*, *Galway Bay Complex SAC* and *Lough Corrib SAC*, as well as ex-situ effects on SCI species of *Lough Corrib SPA* as a result of Construction Phase groundwater discharges from the Site. These mitigation measures will treat the source (e.g., refuelling of plant to be carried out at designated refuelling station locations on Site) or remove the pathway (e.g., no release of wastewater generated on-Site to ground during the Construction Phase).

All works carried out as part of the Proposed Development will comply with all Statutory Legislation including the Local Government (Water Pollution) Acts, 1977 and 1990. Personnel working on the Site will be trained in the implementation of environmental control and emergency procedures. Procedures and relevant documents produced will be formulated in consideration of standard best international practice including but not limited to:

- CIRIA, (2001), Control of Water Pollution from Construction sites, Guidance for Consultants and Contractors;
- Construction Industry Research and Information Association (CIRIA) Environmental Good Practice on Site (C650), 2005;
- BPGCS005, Oil Storage Guidelines;
- UK Pollution Prevention Guidelines (PPG) UK Environment Agency, 2004;
- Construction Industry Research and Information Association CIRIA C648: Control of water pollution from linear construction projects: Technical guidance (Murnane et al. 2006);
- CIRIA C648: Control of water pollution from linear construction projects: Site guide (Murnane et al. 2006); and
- Inland Fisheries Ireland (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters.

In addition, standard best practice measures will be implemented throughout the Construction Phase to ensure no construction-related pollutants are discharged into the surface water or groundwater at and surrounding the Site, which could subsequently be transferred by same to the SACs/SPAs. Standard best practice measures that will be implemented on the Site during the Construction Phase are as follows:

- Silt fencing will be used along the water boundary and any streams and/or drainage ditches on Site which may have a hydrological link to nearby designated sites.
- Any drains or sewers, where present, which could act as pathways for contamination from the Site will be blocked where required.
- Location of stilling/settling ponds will take into account groundwater vulnerability at the site and will be located in suitable areas and at distance from the water's edge.
- Discharge water generated during placement of concrete will be stored and removed off Site for treatment and disposal.
- There will be no washing out of any concrete trucks on Site. Any washing of chutes will be carefully collected in a designated container which will be subsequently sent off site for compliant waste management.
- Specific areas for storage, delivery, loading/unloading of materials will be designated, which will have appropriate containment/spill protection measures where required. These storage areas will be located in suitable areas and at distance from any watercourses hydrologically connected to nearby designated sites.

- Leachate generation from stockpiles or waste receptacles will be prevented by using waterproof covers.
- Prolonged exposure of contaminated soils or groundwater to the atmosphere will be avoided where practical or unnecessary.
- Appropriate bunding, storage and signage arrangements for all deleterious substances will be used.
- Robust and appropriate Spill Response Plan and Environmental Emergency Plans will be included within the Contractor's CEMP and the details of which will be communicated, resourced and implemented for the duration of the works.
- Control measures and spill clean-up equipment adequate to treat spills at the Site will be available and staff will be trained and experienced in using said equipment.
- A register will be kept of all hazardous substances either used on Site or expected to be present. The register shall be available at all times and shall include as a minimum: valid safety sheets; Health & Safety, environmental controls to be implemented when storing, handling, using and in the event of spillage of materials; emergency response procedures/precautions for each material; the Personal Protective Equipment (PPE) required when using the material.
- All existing services will be mapped, and a plan will be put in place to decommission/divert and manage any drains or sewers which are associated with the Site.
- A plan for dealing with any unknown drains or services which may be encountered during the works will be set out and implemented.
- Any surface water inflow into the main areas of excavation will be minimised where possible.

### Maintenance of Plant and Machinery

- All plant and equipment will be regularly cleaned and properly maintained.
- There will be no washing out of any concrete trucks on Site.
- Pumped concrete will be monitored to ensure there is no accidental discharge and will be carried out in dry weather and with impermeable pouring mats laid down where possible.

### Building/Road Network and Services

- Constructing buildings and roads above flood level to ensure that backflows through the surface water outfalls will not occur.
  - The flood risk assessment report which accompanies this application states that the finished floor level (height at which the ground floor of a building is constructed) will be a minimum of 5.05mOD (metres above ordnance datum) (Tobin, 2025b).
- All car parking and refuel areas at the Site will be located on substrate underlain with an impermeable liner to prevent contaminant leaching to groundwater.

### Earthworks Mitigation

The proposed earthworks mitigation measures for both the Construction and Operational Phases include:

- A street sweeper will attend Site regularly to clean the road when there are truck movements in and out of the Site.
- Hard surface roads will be regularly swept to remove mud and aggregate materials from their surface;
- Public roads outside the Site will be regularly inspected for cleanliness, and cleaned as necessary;
- Material handling systems and Site stockpiling of materials will be designed and laid out to minimise exposure to wind; and
- Water misting or sprays will be used on stockpiles as required if particularly dusty activities are necessary during dry or windy periods.

## Storage and Use of Fuels, Oils, and Chemicals

- Appropriate bunding, storage and signage arrangements for all deleterious substances (e.g., fuels, oils, and chemicals) will be used.
- Fuels, lubricants, and hydraulic fluids for equipment used on the construction Site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to best codes of practice (Enterprise Ireland BPGCS005).
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the Site for disposal or recycling.
- Diesel tanks, used to store fuel for the various items of machinery, will be self-contained and double-walled.
- The risk of spillage and leaks of oil from cars parked in the Development during the Construction Phase are considered unavoidable. To reduce the potential impacts, oil interceptors will be incorporated into the Site drainage design.
- Any spillage of fuels, lubricants or hydraulic oils will be immediately contained and the contaminated soil removed from the Site and properly disposed of.
- Refuelling will be carried out from tanks or delivery vehicles on a designated impermeable surface and will not be left unattended.
- Plant will not be left running when not in use (i.e., no idling) and plant with dust arrestment equipment will be used where practical.

## Spill/Emergency Response Plans

- Robust and appropriate Spill Response Plan and Site Environmental Emergency Plans (SEEP) will be implemented for the duration of the works:
  - Identifying fuel storage and refuelling locations on designated areas within the compound, away from drainage ditches/waterbodies (where present), and on substrate underlain with an impermeable liner to prevent contaminant leaching to groundwater;
  - Identifying spill kit locations (spill kits will be required for each piece of heavy equipment (e.g., excavators, loaders, trucks, etc.,) which will be at least 21L drum size each with spill pads, sorbent, small boom, plastic rubbish bag and gloves;
  - A specially trained and dedicated Environmental and Emergency Spill Response team will be appointed before the commencement of works on Site.
  - Staff will be trained and experienced in using appropriate control measures and spill kits on-Site and will be familiar with the location of all spill kit locations and the Site layout.
- A register will be kept of all hazardous substances either used on Site or expected to be present. The register shall be available at all times and shall include as a minimum:
  - Valid safety sheets; Health & Safety, environmental controls to be implemented when storing, handling, using and in the event of spillage of materials;
  - Emergency response procedures/precautions for each material;
  - PPE is required when using the material.

## Waste Management and Disposal

Waste management and disposal, which includes waste water, will comprise the following:

- All existing services will be mapped, and a plan will be put in place to decommission/divert and manage any drains or sewers which are associated with the Site.
- Portaloo and/or containerised toilets and welfare units will be used to provide facilities for Site personnel. All associated waste will be removed from the Proposed Development Site by a licenced waste disposal contractor.
- Mixer washings are not to be discharged into ground or drainage ditches and will be collected and disposed of at a suitably licenced facility.

In addition, a minimal waste approach of reduction, reuse and recycling will be utilized where practicable/appropriate. Where this cannot be carried out, all wastes will be disposed of at licenced waste facilities.

#### 4.5.2.2 Mitigation 2: Air Quality Protection

In addition to the embedded design measures detailed in Section 4.5.1.2 above, in order to protect the surrounding waters and habitats/species therein from dust deposition during earthworks, the following mitigation measures are proposed and shall be included the accompanying CEMP (DNV, 2025b):

- Dust generation will be controlled through proper placement of stockpiles away from sensitive receptors and taking note of the prevailing wind direction.
- In situations where the source of dust is within 25m of sensitive receptors screens (permeable or semi-permeable) will be erected.
- Stockpiles will be located in sheltered parts of the Site, away from sensitive habitats, i.e. waterbodies, and watered where required.
- Staff will monitor dust levels during working hours
- Bowsers will be available during dry periods for surface watering to keep unpaved areas moist.
- Any dust emitting works will be postponed during high winds (gales) until winds have subsided.
- Vehicles delivering material will be covered to prevent the escape of dust.
- A wheel washing facility will be installed near the Site compound for use by vehicles exiting the Site
- Dust deposition rate will be measured by Bergerhoff Dust Deposit Gauges situated in strategic locations in the Site including boundary vegetation.
- Results will be quantified in a lab after 30 days and monitoring reports prepared by the relevantly qualified person.
- A limit of 350mg/m<sup>2</sup> per day will be adhered to.

#### 4.5.2.3 Mitigation 3: Noise Reduction

SCI birds are susceptible to disturbance from increased noise as a result of the Construction Phase of the Proposed Development. Otter is similarly susceptible to noise disturbance.

Mitigation to reduce the effects of noise during the Construction Phase (including human presence, plant, machinery and vehicles) is required to avoid significant adverse effects on the SCI waterbirds associated with *Inner Galway Bay SPA* and otters associated with *Galway Bay Complex SAC* and *Lough Corrib SAC* and is as follows:

- High noise disturbance works (such as demolition and heavy drilling) shall be undertaken between April and September to avoid most sensitive time for wintering birds.
- Minimise working time outside of the designated area within the Proposed Development Site.
- Acoustic barriers shall be installed along the entire length of the eastern boundary of the Site.
- Acoustic barriers shall be opaque so as to additionally reduce visual disturbance. As per Cutts et al (2013), the removal of the majority of visual stimuli in combination with the reduction in noise levels will decrease overall disturbance to waterbirds that may be using

Oranmore Bay to 'Low level disturbance'. This is defined as "*Works that are out of sight of birds and create a low-level noise,*" and "*Noise of 55-72dB in a highly disturbed environment*", both of which will be achieved by the installation of the opaque acoustic barriers.

- Selection of plant machinery with low inherent potential for generating noise.
- Siting of plant as far away from sensitive receptors as permitted by Site constraints.
- Avoidance of unnecessary revving of engines and switch off plant items when not required.
- Keep plant machinery and vehicles adequately maintained and serviced.
- Proper balancing of plant items with rotating parts.
- Keep internal routes well maintained and avoid steep gradients.
- Minimise drop heights for materials or ensure a resilient material underlies.
- Where noise originates from resonating body panels and cover plates, additional stiffening ribs or materials shall be safely applied where appropriate.

Acoustic barriers are readily available online and have the benefit of reducing noise levels by up to 43dB. Noise levels at the Site in conjunction with SCI birds present in *Inner Galway Bay SPA*, SCI birds commuting/foraging from *Lough Corrib SPA*, and otters present in *Galway Bay Complex SAC* and *Lough Corrib SAC* will be monitored regularly by a suitably qualified ecologist to ensure the effectiveness of the measures described above. Monitoring is discussed in more detail in Section 4.6 below. Where works are occurring outside of the wintering bird sensitive season (April to September), monitoring is not required. Acoustic barriers should remain in place.

#### 4.5.2.4 Mitigation 4: Lighting

Certain SCI bird species within *Inner Galway Bay SPA* are sensitive to increased lighting. Similarly, otter and harbour seal which are associated with *Galway Bay Complex SAC* and *Lough Corrib SAC* are also sensitive to lighting (otter are a primarily nocturnal species). Mitigation to reduce the effects of lighting stimuli posed by the Construction works (including human presence, plant, machinery and vehicles) is required at the Site to avoid significant adverse effects on the SCI waterbirds of the SPA or otters.

Where possible, the Construction Phase lighting will be switched off during non-working hours. However, during use, directional lighting will be the lighting of choice as this will minimise light spill from the site, into any surrounding areas which may be in use by otter or other nocturnal animals that may be commuting/foraging in the area. Lighting should be directed away from the water in order to maintain a dark corridor. LED luminaires possessing a warm white spectrum (2700k) will be used so as to reduce the blue light component. LED lights are also ideal due to their sharp cut-off, lower intensity, and dimming capabilities.

In addition, suitable (e.g., wood) hoarding shall be installed along the perimeter of the site to provide visual screening to QI/SCI species such as otter, who are present in the vicinity and may be sensitive to the increased human presence and activities during the Construction Phase.

#### 4.5.2.5 Mitigation 5: Ecological Clerk of Works

Prior to the commencement of any works, an Ecological Clerk of Works (ECoW) shall be appointed.

The role of the ECoW is to ensure there is no light spillage from the Site during construction in the later hours of the working day during winter, and to check the acoustic/screening barrier functionality. This will serve to further mitigate against potential disturbance noise/visual impacts. The ECoW will also be responsible for ensuring that no species such as otter are using the Site and are entrapped within any pipes/machinery.

### 4.5.3 Operational Phase

#### 4.5.3.1 Mitigation 6: Artificial Lighting

As the use of lighting cannot be avoided during Operation, the below features for artificial lighting are recommended at the Site to avoid disturbance to SCI bird species using the surrounding SPAs and others using the two SACs. These lighting measures must be implemented in conjunction with the bird-friendly lighting measures incorporated into the lighting design (Section 4.5.1):

- Lighting shall be directed away from sensitive ecological areas/receptors, specifically it should be directed away from the waters and Lough Atalia.
- Light spill outside of the Site's boundaries shall be minimised;
  - Light spill along the eastern boundary (by the water) will be limited to approximately 1 LUX.
- The lighting design is based on the use of LED lighting which has minimal or no UV output of significance. Warmer 2700°K LED lighting will be utilized for amenity areas, as the warmer colour temperatures with peak wavelengths greater than 550nm (~3000°K) cause less impacts on bird species. This accounts for;
  - The fact that birds are sensitive to shorter wavelengths (blue and UV light) which can disorient migratory birds, leading to collisions with infrastructure or exhaustion, especially at night, when most migrations are considered to occur.
  - The fact that warmer LEDs emit less blue light and more light in longer wavelengths (yellow-red spectrum) which is less disruptive to circadian rhythms and navigation.

In addition, the lighting associated with the Proposed Development is expected to be consistent with existing lighting conditions of the surrounding Galway Port/City landscape, which is heavily urbanised in nature, and, as such QI/SCI species which may be present would be expected to be habituated to such urbanised light.

The advantages of such lighting serve to minimize ecological disruption, supports nocturnal wildlife, and aligns with best practices in sustainable lighting design, extending beyond SCI bird species of the *Inner Galway Bay and Lough Corrib SPA* sites.

## 4.6 Monitoring

### 4.6.1 Construction Phase

During the Construction Phase, the following monitoring will be carried out by the construction contractor to ensure the implemented mitigation measures are maintained effectively:

- Checks of sound levels emitted from the Site during any loud works after installation of acoustic barriers.
- Ensuring time spent outside of the Site's bounds by workers is kept to a minimum.
- Dust control measures and surface water/groundwater protection measures (in Mitigation 1) will be checked on a weekly basis, and more often during dry weather, to ensure they remain effective.
- Surface water/groundwater protection measures will be checked on a weekly basis, and more often during wet weather.

### 4.6.2 Operational Phase

No monitoring is required during the Operational Phase.

### 4.6.3 Summary of Monitoring Requirements

The below table summarises the aforementioned monitoring requirements, as well as listing the person/(s) responsible for ensuring compliance (Table 8).

**Table 8: Summary of Monitoring Requirements for compliance.**

| Measure                                                                                                         | Monitoring                                                                                     |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <b>Construction Phase</b>                                                                                       |                                                                                                |
| Measure 1. Water Quality Controls                                                                               | Weekly checks to ensure water quality mitigations remain effective                             |
| Measure 2. Noise Related Disturbance/Displacement                                                               | Weekly noise level checks to ensure acoustic barriers are functioning correctly once installed |
| Measure 3. Designating no access zones (for sensitive areas)                                                    | Toolbox talk at project commencement and upon appointment/arrivals of persons working on Site. |
| Measure 4. Dust Controls                                                                                        | Weekly checks to ensure dust mitigations remain effective                                      |
| <b>Operation Phase</b>                                                                                          |                                                                                                |
| No monitoring is required during the operation phase once all mitigation measures proposed are enacted in full. |                                                                                                |

## 5 CONCLUSION

This NIS details the findings of the Stage 2 Appropriate Assessment conducted to further examine the potential direct and indirect impacts of the Proposed Development planning application at Galway Port, County Galway on the following European Sites:

- *Galway Bay Complex SAC (000268),*
- *Inner Galway Bay SPA (004031),*
- *Lough Corrib SAC (000297),*
- *Lough Corrib SPA (004042).*

The above sites were identified by a screening exercise that assessed likely significant effects of a range of impacts that have the potential to arise from the Proposed Development. The Appropriate Assessment investigated the potential direct and indirect effects of the proposed works, both during construction/infill and operation, on the integrity and qualifying interests of the above European Site, alone and in combination with other plans and projects, taking into account the site's structure, function and conservation objectives.

Where potentially significant effects were identified, a range of mitigation and avoidance measures have been suggested to avoid them. This NIS has concluded that, once the avoidance and mitigation measures are implemented as proposed, the Proposed Development will not have an adverse effect on the integrity of the above European site(s), individually or in combination with other plans and projects. Where applicable, a suite of monitoring surveys have been proposed to confirm the efficacy of said measures in relation to ensuring no adverse impacts on the habitats of the relevant European sites have occurred.

As a result of the complete, precise and definitive findings in of this NIS, it has been concluded, beyond reasonable scientific doubt, that upon implementation of the mitigation measures as outlined in the preceding section, the Proposed Development will have no significant adverse effects on the QIs, SCIs and on the integrity and extent of the aforementioned European sites. Accordingly, the Proposed Development will not adversely affect the integrity of any relevant European site.

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## 7 APPENDICES

### 7.1 Appendix 1

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Site Photographs – Galway Port, Co. Galway



Plate 1: Overview of Site, showing BL3 habitat and GS2 habitat  
(aerial photograph taken via drone)



Site Photographs – Galway Port, Co. Galway

Plate 2: BL3 – Buildings and Artificial Surfaces Habitats



Plate 3: Boundary wall to south of the Site - further BL3 habitat (View from outside the Site and red line boundary)

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## Appendix 6-1

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# **Geo-environmental Interpretative Report**

Phase 2 Ground  
Investigation - Galway  
Inner Harbour, Galway



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## DOCUMENT DETAILS

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Project Title: **Phase 2 Ground Investigation - Galway Inner Harbour, Galway**

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## APPENDICES

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# 1. INTRODUCTION

## 1.1 General

MKO has been commissioned by Galway Harbour Company to undertake further ground investigation at the Galway Inner Harbour site for due diligence purposes and to support future landuse planning and design processes.

A preliminary ground investigation was undertaken at the Galway Inner Harbour site by Ground Investigations Ireland Ltd (GII) on behalf of MKO in August 2019<sup>1</sup>. At the time of the investigation the area to the north of the site (Texaco petrol station and swathe of land) was inaccessible and therefore this section of the site had not been investigated. In addition, a number of the window sampler boreholes refused at shallow depths within the Made Ground and therefore it was necessary to undertake further investigation by means of rotary drilling to understand the ground conditions at depth. It was also necessary to install groundwater monitoring wells in order to characterise and assess the groundwater at depth.

## 1.2 Statement of Authority

This Geo-environmental Interpretive Report (GIR) has been prepared by Eoin O'Sullivan and reviewed by Michael Watson, both of MKO. Eoin is an experienced geo-environmental scientist and has over fourteen years' experience in the project management of large scale infrastructural projects and brownfield developments which includes all aspects of geo-environmental and geotechnical investigation. Eoin holds an MSc in Environmental Engineering and is a Chartered Member of the Chartered Institute of Water and Environmental Management (CWEM) and Chartered Environmentalist (CEnv) with the Society of Environment. Michael has over twenty years' experience in the environmental sector and had worked for the Geological Survey of Ireland and then a prominent private environmental & hydrogeological consultancy prior to joining MKO in 2014. Michael completed an MA in Environmental Management at NUI, Maynooth in 1999. Michael is a professional geologist (PGeo) and full member of IEMA (MIEMA) as well as a Chartered Environmentalist (CEnv).

## 1.3 Objectives

The objective of further investigation is to obtain information on the previously inaccessible areas of site, confirm the geotechnical and geo-environmental ground/groundwater conditions at depth and investigate potential anomalies from the preliminary investigation. To this end, the following actions have been undertaken:

- Carry out additional ground investigation by means of window sampler and rotary core drilling;
- Provide information on the ground and groundwater conditions, based on the current and previous phases of investigation;
- An assessment of the potential risks arising from soil and groundwater contamination onsite and recommendations for their mitigation where appropriate.

This report describes the work completed and presents the findings of the assessment and recommendations.

<sup>1</sup> MKO (October 2019). Galway Harbour Company. Geo-environmental Interpretive Report. Phase 1 – Galway Inner Harbour, Galway. 190532

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## 2. SITE CONTEXT

### 2.1 General

This report should be read in conjunction with the previous MKO GIR Report<sup>1</sup>, which includes more detailed information on the site context and detailed information on the earlier phase of investigation and assessment. A brief summary of the key information is presented in the following sections.

### 2.2 Site Location and Description

The site is located in Galway Bay, Galway City. The approximate location for the centre of the site is E130168, N224899. The site is bounded by commercial and residential properties to the north and west and Galway Harbour to the east and south of the site. Galway Harbour Enterprise Park is located further to the east and is separated from the site by a bridge. Forthhill Graveyard is located at the north western boundary of the site and is separated from the site by Lough Atalia Road. A site location plan is included as Figure 2-1.

The site is approximately 1.6 Ha in area, irregular in shape and is predominantly flat. The main section of the site can be accessed from Lough Atalia Road to the north of the site. Access to the western section of the site is via Dock Street and Dock Road. The site is currently occupied by the Galway Harbour Offices, Galway Lifeboat Station, Lasta Mara steel fabrication, Mor Oil, Texaco Petrol Station, City Direct Bus, Galway Bay Seafoods and car parking. The wider area surrounding the site includes a mixture of residential, commercial and industrial properties.

### 2.3 Ground Conditions

#### 2.3.1 Geology

Based on the Geological Survey Ireland (GSI) subsoils map ([www.gsi.ie](http://www.gsi.ie)) and the Environmental Protection Agency (EPA) published soils map ([www.epa.ie](http://www.epa.ie)), the site is generally underlain by Made Ground. Limestone Till, Alluvium and surface bedrock is also present locally and maybe encountered on site.

The Made Ground overlies the Metagabbro and Orthogneiss Suite. The rocks of the Metagabbro are mainly comprised of Hornblende Gabbros and Hornblende Gabbro-norites. The rocks of the Orthogneiss Suite were metamorphosed during crystallisation and usually have a marked foliation. The rocks of the Orthogneiss Suite are comprised of quartz diorite, tonalite, granodiorite and granite. Limestone and Calcareous Shale is also present locally and maybe encountered on site.

The ground conditions encountered during the MKO 2019 ground investigation are summarised in Table 2-1 below.

Table 2-1 Summary of Ground Conditions (MKO 2019 Investigation)

| Stratum                           | Depth to Top of Stratum (mbgl) | Typical Thickness (m) |
|-----------------------------------|--------------------------------|-----------------------|
| Tarmac and concrete hard-standing | 0.0                            | 0.04 to 0.5           |

| Stratum                                                                                                                                                                                                                                                                                                                                                                                                                     | Depth to Top of Stratum (mbgl) | Typical Thickness (m) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------------------|
| <p>Grey, brown clayey gravel, sandy gravelly clay, sandy clayey gravel, silty sandy gravelly clay, gravelly clayey sand, gravelly clay or gravel. Gravel is fine to coarse subrounded to subangular with occasional cobbles of granite.</p> <p>Occasional fragments of plastic, glass, red brick, clinker, slate, concrete, porcelain, and ash.</p> <p>Abundant shell fragments in WS-09 and WS-13</p> <p>[MADE GROUND]</p> | 0.04 to 0.5                    | 0.2 to 2.6            |
| <p>Grey, brown sandy gravelly clay, clayey gravelly sand or sandy clayey gravel.</p> <p>[POSSIBLE MADE GROUND]</p>                                                                                                                                                                                                                                                                                                          | 0.8 to 1.0                     | 0.6 to 1.4            |
| <p>Grey, brown sandy gravelly silty CLAY, sandy gravelly silty CLAY or sandy gravelly CLAY with occasional subangular to subrounded cobbles of granite and occasional shell fragments.</p> <p>[WS-04 and WS-21 only]</p> <p>[POSSIBLE ESTUARINE SEDIMENTS]</p>                                                                                                                                                              | 1.0 to 2.0                     | 1.2 to 2.0            |

The ground conditions were found to generally comprise a variable thickness of Made Ground between 0.2 metres and 2.6 metres. Possible Estuarine Sediments (PED) were encountered in two of the window sampler boreholes only (WS-04 and WS-21 only). The estuarine sediments typically ranged in thickness between 1.2m to 2.0m and it was encountered at depths of 1.0m to 2.0m below ground level.

Obstructions were encountered in window sampler boreholes WS-01 (0.5 metres below ground level (mbgl)), WS-02 (0.5mbgl), WS-03 (0.54mbgl), WS-07 (0.7mbgl), WS-08 (0.5mbgl), WS-11 (0.7mbgl), WS-15 (0.5mbgl), WS-15A (0.4mbgl) and WS-24 (0.5mbgl) and therefore these boreholes were terminated at these depths due to the obstructions.



Map Legend

Site Location

Site Location

Project Title

Galway Inner Harbour, Galway

Drawn By

EOS

Project No.

220628

Scale

1:35,000

MW

Drawing No.

2-1

Date

2022-11-14

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### 3. GROUND CONTAMINATION

#### 3.1 Summary of MKO 2019 Investigation

A summary of the findings of the MKO intrusive investigation<sup>1</sup> with respect to soil contamination is presented below.

##### 3.1.1 Soil

MKO undertook a ground investigation between the 28<sup>th</sup> August and the 3<sup>rd</sup> September 2019 which comprised the excavation of twenty four window sampler boreholes (WS-01 to WS-24) to a maximum depth of 4.0mbgl. Selected samples were retrieved for chemical analysis and two ground gas monitoring visits and three groundwater monitoring visits were undertaken.

MKO screened the soil chemical results from the ground investigation using Generic Assessment Criteria (GAC) derived by LQM/CIEH (Suitable 4 Use Levels) for a number of end use scenarios including 'Residential (without Private Gardens)' and 'Commercial' land use scenario's.

Comparison of the soil results against the 'Residential (without Private Gardens)' criteria indicated that elevated concentrations of lead, benzo(a)pyrene, benzo(b)fluoranthene and dibenzo(a,h)anthracene have been identified within the Made Ground across the site, which pose a risk to human health.

Comparison of the soil results against the 'Commercial' criteria indicated that the measured concentrations for the determinants analysed in the Made Ground are below the assessment criteria and therefore are not considered to present an unacceptable risk to human health based on a 'Commercial' land use scenario.

Asbestos containing material (amosite and chrysotile fibre bundles) were identified in the Made Ground samples from window sampler boreholes WS-10 between 1m and 2mbgl and WS-18 between 0m and 2mbgl which could pose a potential risk to human health. There was no asbestos identified in the other window sampler boreholes.

The concentrations of copper and zinc in the Made Ground were also found to be above those prescribed by BS3882:2015<sup>2</sup> and therefore pose a risk to vegetation and plant growth.

The concentrations of the determinants analysed in samples of the natural ground were below the assessment criteria for both 'Residential (without Private Gardens)' and 'Commercial' land use scenario's and therefore are not considered to present an unacceptable risk to human health.

It was considered that the potential risks to future users via dermal contact, inhalation and ingestion pathways could be mitigated through the use of barrier layers, i.e. the footprint of the proposed buildings, hardstanding for roads and pavements or capping layers in soft landscaping areas.

##### 3.1.2 Ground Gas

GII undertook two rounds of gas monitoring on the 19<sup>th</sup> September and 4<sup>th</sup> October 2019. The maximum recorded gas concentrations across the site were recorded as 0.3 v/v% for methane and 2.0 v/v% for carbon dioxide. The maximum flow rate in all the monitoring wells was recorded as <0.1 litres/hour. The results of the ground gas monitoring indicate a gas screening value (GSV) suggesting

<sup>2</sup> BSI (2015). Specification for Topsoil BS3882:2015. BSI Standards Publication

that the site conforms to Characteristic Situation 1, indicating that no gas protection measures are required.

### 3.1.3 Waste Classification

An assessment of the soil for waste classification purposes indicates that of the thirty one Made Ground and four soil samples tested, seven samples would be classified as hazardous and twenty eight samples would be classified as not-hazardous (i.e. inert or non-hazardous) for waste recovery/disposal purposes. The result from the asbestos quantification testing indicates that the areas of Made Ground where asbestos was identified in window sampler boreholes WS-10 between 1m and 2mbgl and WS-18 between 0m and 2mbgl were below the hazardous threshold of >0.1% asbestos by weight.

4.

## CURRENT ADDITIONAL GROUND INVESTIGATION

4.1

### Fieldwork

The additional ground investigation was undertaken between the 28<sup>th</sup> August and 30<sup>th</sup> September 2022 and comprised the excavation of fifteen window sampler boreholes (WS201 to WS215) to a maximum depth of 0.9mbgl and fifteen rotary core boreholes (BH01 to BH15). Groundwater monitoring standpipes were installed in boreholes BH01 to BH15. The borehole locations were discussed in advance with the client and agreed with the tenants.

Prior to the undertaking ground investigation works, a buried services survey was undertaken by GII using a cable avoidance tool. This survey indicated the proposed exploratory hole locations were clear of potential services.

In order to obtain samples for laboratory chemical and geotechnical testing and to characterise the ground conditions across the site, the exploratory hole arisings were logged and representatively sampled by a suitably qualified engineer from GII.

The investigation was undertaken generally in accordance with the requirements set out within BS 5930:2015+A1:2020<sup>3</sup> and BS 10175:2011+A2:2017<sup>4</sup>. A site layout and exploratory hole location plan is presented as Figure 4-1, and a record of the borehole logs outlining the material encountered, samples and field testing undertaken for each exploratory hole is presented in Appendix 1.

4.2

### Monitoring

Monitoring has been undertaken on two occasions on the 11<sup>th</sup>/12<sup>th</sup> October 2022 and 10<sup>th</sup>/11<sup>th</sup> November 2022 to record groundwater levels from the standpipes. Ground gas concentrations were also obtained from the window sampler boreholes WS04, WS09, WS10, WS12, WS16, WS22 and WS23 during the monitoring round on the 10<sup>th</sup>/11<sup>th</sup> November 2022. Groundwater samples were retrieved from boreholes BH01 to BH15 inclusive during the visit on the 11<sup>th</sup>/12<sup>th</sup> October 2022. The water was tested during sampling for in-situ parameters including pH, dissolved oxygen, redox potential, temperature and electrical conductivity.

The monitoring records are included in Appendix 2.

4.3

### Laboratory testing

Eleven Made Ground soil samples were sent to Element Materials Technology (a UKAS and MCERTS accredited laboratory) for chemical testing. The number of samples tested, their location, depth and rationale is summarised in Table 2.

<sup>3</sup> BSI (2020). Code of Practice for Ground Investigations BS 5930:2015+A1:2020. BSI Standards Publication

<sup>4</sup> BSI (2017). Investigation of Potentially Contaminated Sites – Code of Practice BS10175:2011+A2:2017. BSI Standards Publication

Table 4-1 Sample Location, Depth and Rationale

| Borehole | Depth (mbgl) | Testing                                                | Rationale                                                 |
|----------|--------------|--------------------------------------------------------|-----------------------------------------------------------|
| WS203    | 0 - 0.7      | Soil suite, Asbestos screen and ID, WAC <sup>1</sup> . | To test for presence of contamination within Made Ground. |
| WS206    | 0 - 0.5      | Soil suite, Asbestos screen and ID, WAC <sup>1</sup> . | To test for presence of contamination within Made Ground. |
| WS207    | 0 - 0.6      | Soil suite, Asbestos screen and ID, WAC <sup>1</sup> . | To test for presence of contamination within Made Ground. |
| WS208    | 0 - 0.9      | Soil suite, Asbestos screen and ID, WAC <sup>1</sup> . | To test for presence of contamination within Made Ground. |
| WS209    | 0 - 0.6      | Soil suite, Asbestos screen and ID, WAC <sup>1</sup> . | To test for presence of contamination within Made Ground. |
| WS210    | 0 - 0.9      | Soil suite, Asbestos screen and ID, WAC <sup>1</sup> . | To test for presence of contamination within Made Ground. |
| WS211    | 0 - 0.7      | Soil suite, Asbestos screen and ID, WAC <sup>1</sup> . | To test for presence of contamination within Made Ground. |
| WS212    | 0 - 0.6      | Soil suite, Asbestos screen and ID, WAC <sup>1</sup> . | To test for presence of contamination within Made Ground. |
| WS213    | 0 - 0.5      | Soil suite, Asbestos screen and ID, WAC <sup>1</sup> . | To test for presence of contamination within Made Ground. |
| WS214    | 0 - 0.5      | Soil suite, Asbestos screen and ID, WAC <sup>1</sup> . | To test for presence of contamination within Made Ground. |
| WS215    | 0 - 0.5      | Soil suite, Asbestos screen and ID, WAC <sup>1</sup> . | To test for presence of contamination within Made Ground. |

Notes

1 WAC = Waste Acceptance Criteria

The soil analysis included the following determinants:

- Heavy metals including; antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium and zinc;
- Benzene, toluene, ethylbenzene, xylenes (BTEX) compounds;

- Total Petroleum Hydrocarbons (TPHCWG) and Polycyclic aromatic hydrocarbons (PAHs);
- Polychlorinated biphenyl (PCBs);
- Total monohydric phenols;
- Total Organic Carbon;
- Natural Moisture Content; and
- pH determination.

Groundwater samples from boreholes BH01 to BH15 were analysed for a similar suite of contaminants. Samples of Made Ground that were scheduled for laboratory analysis were screened for asbestos. Laboratory testing results are presented in Appendix 3.